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ON AUSTRALIAN STAPHYLINIDAE (COLEOPTERA).

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The family Staphylinidae, in actual numbers, is probably, in Australia, second only to the Curculionidae (if not actually in excess of it), but has been more neglected than any other of the large ones. Thus in Masters' Catalogue only 278 species, out of a total of 7,201, are recorded. In Sharp's Catalogue of the British Coleoptera, of a total of 3,193 species, 760 are Staphylinidae, these being in excess of the Curculionidae. Even now less than 1,000 species are known from Australia, a number certainly far short of that which occurs in Queensland alone.

My present purpose is not to revise the family, but to give a list of all the species previously recorded from Australia, with their distribution, notes on various species, and descriptions of new ones.

Masters' Catalogue of Australian Coleoptera was published when comparatively few species of the family were recorded from Australia, and many of those there noted have been generically transferred. In Junk's Coleopterorum Catalogus, Bernhauer and Schubert are now dealing with the Staphylinidae of the world, and to save space it was considered necessary only to refer to the pages of that Catalogue in which our genera are recorded. Our main geographical districts are recorded by initials as follows:—Q. (Queensland), N.S.W. (New South Wales), V. (Victoria), Tas. (Tasmania), S.A. (South Australia), W.A. (Western Australia), N.W.A. (North-western Australia), N.T. (Northern Territory), and C.A. (Central Australia). Synonymy of introduced species has usually been omitted.

No family of beetles may be more readily identified; the long abdomen, usually with seven conspicuous segments, short elytra, at most covering the base of the abdomen, and general appearance being at once distinctive. Most of the species are small and obscurely coloured and so seldom have an attractive appearance, even when properly "set." To see the abdomen clearly specimens should be mounted, when fresh, with all the segments fully exposed; this was seldom done with the specimens sent to me, and in general is neglected; the result is that the segments become more or less telescoped, and no dependence is to be placed upon their apparent size; the apparent shapes of the under parts also vary in appearance with the positions of the legs. It is often essential to examine the palpi, necessitating their dissection for examination under the microscope. The

mandibles are usually clenched, but are easily relaxed in water, although, when thin, they are often broken on being forced open. A greater variation in the apparent numbers of tarsal joints occurs in the family than in any other, and owing to the density of their clothing it is frequently difficult to be sure of their numbers. The male usually has one or more segments of the abdomen triangularly notched on the under-surface, and its head is often larger than that of the female.

Macleay[1] was the first to name any considerable number of Australian species, when dealing with the insects of Gayndah; many of his types were redescribed by Olliff.

Fauvel[2] was the first to revise the Australian species as a whole, but included with them those of Polynesia. He also had a paper[3] dealing with the Staphylinidae of Molucca and New Guinea, in which many of our species were described, although not then known from Australia. Many of his types passed to the British Museum from Sharp's collection.

Olliff[4] commenced a revision of the family in 1886, and three parts were published; most of his types are in the Australian and Macleay Museums, but a few passed from the Simson collection into the South Australian Museum.

Blackburn often dealt with species of the family in his papers in the Transactions of the Royal Society of South Australia, and the Proceedings of the Linnean Society of New South Wales. Some of his specimens were identified by Sharp. His types are mostly in the British Museum, but a few are in the South Australian and National Museums.

Bernhauer[5] dealt with the Staphylinidae taken in Western Australia by Michaelsen and Hartmeyer; and by Mjoberg[6] in Queensland and other parts of Australia.

I have also previously dealt with members of the family in the Transactions of the Royal Society of South Australia, Proceedings of the Linnean Society of New South Wales, Proceedings of the Royal Society of Victoria, and Records of the South Australian Museum.

In addition to the works previously quoted I have, amongst others, consulted the following authors, whose works will be found useful to students of the family:—

Cameron. New Species of Staphylinidae from Singapore; in Transactions of the Entomological Society of London, 1920.

Erichson. Genera et Species Staphylinorum.

Fenyes. Aleocharinae, in Wytsman's Genera Insectorum, fasc. 173.

Lacordaire. Genera des Coleopteres, ii.

Leconte and Horn. Classification of the Coleoptera of North America.

Kraatz. Insecten Deutschlands, ii.

Sharp. Biologia Centrali Americana, i. (2).

Although Cameron expressly states that "The characters in the tables do not necessarily apply to the species not found in Singapore," his tables will be found very useful to anyone dealing with species from tropical parts of Australia.

Some of Macleay's descriptions are certainly poor, but his types are fortunately available for examination in the Australian Museum. Fauvel, although he sharply criticised Macleay's work, often published no better descriptions himself, as they are frequently little more than comparisons with ex-Australian species,

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(1) Macleay, Trans. Ent. Soc. N.S. Wales, ii.
(2) Fauvel, Ann. Mus. Civ. Gen., 1877 and 1878.
(3) Fauvel, *L.c.*, 1878.
(4) Olliff, Proc. Linn. Soc. N.S. Wales, 1886 and 1887.
(5) Bernhauer, Die Fauna Sudwest Australiens, Jena, 1908.
(6) Bernhauer, Arkiv. For Zoologi, 1916 and 1920.

colour often not being mentioned. Some years ago, realizing this difficulty, and also that many species were liable to be introduced to Australia in ships, I commenced the formation of an European collection of the family; these specimens, together with those owned by the late Rev. T. Blackburn, by the late Mr. Aug. Simson, and some from other sources, are now in the South Australian Museum, and have proved of great assistance.

I have examined all of the Australian types of Macleay and Olliff, and many of Blackburn's; also many cotypes of Blackburn and Fauvel, and of species identified by them. Some of the specimens collected in Australia by Mjoberg and identified or named by Bernhauer, were received from the Stockholm Museum; some years ago I also saw a few specimens belonging to the Western Australian Museum, taken by Michaelsen and Hartmeyer, and identified by Bernhauer. So that with few exceptions authentic specimens of most of the previously named species have been examined. To Mr. G. J. Arrow I am particularly indebted for the examination of some of Fauvel's cotypes, belonging to the British Museum, these enabling synonymy to be confidently noted that in several cases might otherwise have been dubious, or overlooked. The examination of long series of many species has also enabled notes on variation and synonymy to be made, and to extend the known ranges of many species. Specimens were received from the British, Queensland, Australian, Macleay, and National Museums; from Drs. M. Cameron and E. W. Ferguson, and from Messrs. E. Allen, H. J. Carter, J. Clark, H. W. Davey, A. H. Elston, E. Fischer, J. C. Goudie, H. H. D. Griffith, R. F. Kemp, C. Oke, and F. E. Wilson.

The numbers of species and specimens of the family that may be obtained by sieving a few square yards of fallen leaves in gulleys and other damp places is amazing. Mosses and tussocks often shelter them in abundance, and some curious wingless, slow-moving species have only been taken from mosses. More species of the family are to be taken from nests of ants, than of all other kinds of beetles, and some of the inquilines have very curious habits, as well as being structurally abnormal. Others are to be taken under bark, under seaweeds, and other beach *debris*. During floods they may often be seen in countless thousands. At dusk on warm days they may often be seen flying in great numbers, their bodies held at about 45 degs. from the ground-line, and their elytra held parallel with it. Curious slow-moving species are to be taken in brown cores in pipes of trees. Considerable numbers of thin and minute, subterranean, blind species have been taken in Europe by very careful special methods, but in Australia the only blind species known, *Typhlobledius cylindricus,* and *Tripectenopus caecus*, are fairly large, although of each only one specimen is known. Of one curious species, *Cryptommatus jansoni*, several specimens have been taken in Tasmania, from the anal region of bush rats. A few species frequent flowers, and in the tropics many are arboreal. Many are attracted to lights.

In general the species may be regarded as scavengers, feeding on decaying animal and vegetable substances. In parts of the world where large animals are abundant, dung-frequenting species are far more numerous than in Australia. Many have been introduced all over the world, in commerce; they are readily transported in hay and straw; dung-frequenting species frequently travel in ships with horses, cattle, and other animals.

Subfamily PAEDERIDES.

This subfamily, although not the largest, contains perhaps a greater number of interesting species than any other of the family. A few species of the typical genus *Paederus* are abundant and widely distributed, but most of them are rare.

PINOPHILUS, Grav., Cat., p. 1919.

In all the specimens of this genus examined by me the mandibles were clenched, so that it was impossible to decide as to whether they were dentate or not, and this appears to have been the case with (at least) most of the Australian specimens that have been made into types. On placing the specimens in water for about an hour, however, they may be softened so as to allow the mandibles to be opened, and it will then be seen that by them the Australian species of the genus may be divided into four groups, as follows:—

1. Mandibles unarmed.

LATEBRICOLA, Blackb. MAJOR, Lea. PUNCTIFRONS, Lea. RUFITARSIS, Fvl. TRAPEZUS, Fvl.

2. Each mandible with a small, acute, subbasal tooth.

APTERUS, Lea. AUSTRALIS, Har. (on this species the subbasal tooth is so small that it could be easily overlooked). MASTERSI, Macl.

3. Each mandible with an acute submedian tooth.

MACLEAYI, Duv. RUBRIPENNIS, Fvl.

4. Each mandible with an acutely bicuspidate submedian tooth.

AENEIVENTRIS, Fvl. QUADRATICOLLIS, Lea. SEMIOPACUS, Lea.

Of the species not noted above:—

CURTICORNIS, Fvl. Is probably allied to *P. rubripennis,* and so may belong to the third group; its mandibles were not even mentioned in the original description.

GRANDICEPS, Macl. Is allied to *P. trapezus,* and probably has unarmed mandibles.

MARGINELLUS, Fvl. Some specimens commented upon as probably belonging to this species have curious mandibles, figured for comparsion with those of the numbered groups.

Despite the variation in the mandibles the Australian species have a strong general resemblance, and all appear to be congeneric. Sharp, however,[7] says: "The genus *Araeocerus,* Nordm,[8] is ascribed to *Pinophilus* as a synonym by Erichson and others, but this is a mistake, as *Araeocerus* is well distinguished by the edentate mandibles." So that apparently he would refer all the species of the first group to *Araeocerus.* Erichson[9] says, "*Mandibulae . . . medio dente valido truncato,*" a character which, if insisted upon, would exclude all the Australian species here dealt with, with the possible exception of *P. marginellus;* as the only specimens I have seen to which it would apply are some of the third group from which the tips of the bicuspidate tooth have been broken. Lacordaire,[10] who also included *Araeocerus* as a synonym, says, "*Mandibules . . . fortement unidentees en dedans,*" which would exclude all those of the first and fourth groups. Fauvel, without comment, referred species to the first, third, and fourth groups.

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[7] Sharp, Biol. Cent. Amer., I. (Part 2), p. 620.

[8] *Araecerus* of the Anthribidae was used by Schonherr in 1826, and altered by Gemminger and Harold, in 1872, to *Araeocerus,* despite the fact that Nordmann had, in 1837, used the latter form for a genus of Staphylinidae.

[9] Erichson, Gen. et Spec. Staph., p. 669.

[10] Lacordaire, Gen. des Coleopt., ii., p. 102.

AENEIVENTRIS, Fvl. Q., N.S.W., V., S.A., N.W.A., N.T.
AUSTRALIS, Germ. et Har. N.S.W.
opacus, Redt.
CURTICORNIS, Fvl. Q.
GRANDICEPS, Macl. Q., V.
LATEBRICOLA, Blackb. S.A., V., C.A.
MACLEAYI, Duv. Q., N.S.W., V., N.T.
brevis, Macl., n. pr.
MARGINELLUS, Fvl. Q., V., S.A., N.W.A.
MASTERSI, Macl. Q., N.W.A.
QUADRATICOLLIS, Lea. N.S.W., N.W.A., N.T.
RUBRIPENNIS, Fvl. Q., N.S.W., N.W.A.
jejunus, Lea.
RUFITARSIS, Fvl. V., Tas., S.A.
TRAPEZUS, Fvl. N.S.W., V., S.A., C.A.

PINOPHILUS AENEIVENTRIS, Fvl.

A specimen from Oenpelli (Northern Territory) in the National Museum appears to belong to this species, but has the legs much darker than on typical specimens (almost black, except that the tarsi are paler); another specimen, probably immature, from the same locality is entirely of a dingy (but not uniform) castaneous-brown; an almost identical specimen, but even paler, is in Mr. Carter's collection, from Cooktown. A specimen from North-western Australia appears to belong to the species, but differs from several, from Victoria and South Australia, in having the punctures of the prothorax and elytra denser and the legs darker (although not black). On its right mandible the median tooth is acutely bicuspidate, on the left one less conspicuously so; and they similarly vary on all those whose mandibles I have forced out for examination.

PINOPHILUS MARGINELLUS, Fvl. Fig. 3.

Two specimens from Queensland (Cairns and Brisbane) agree so well in colour and in most details with the description (and characters given in the table) of this species that I am averse from regarding them as new; they differ from the description, however, in having the prothorax transverse (about one-fifth wider than long), and with the apical joint of the antennae subtriangularly pointed. The type was from Melbourne, but so many species of the genus are widely distributed that the great distances apart from which the specimens were taken should hardly be considered. Each mandible near the middle is dilated, and then evenly continued to the basal enlargement, so that from some directions it appears dentate.

PINOPHILUS TRAPEZUS, Fvl.

A specimen from Yackandandah (Victoria), in Mr. Davey's collection, differs from typical ones of this species in being of a dingy castaneous-brown, except that the abdomen is darker. Of the mandibles of this species Fauvel only mentioned their colour. On two specimens identified by Blackburn as belonging to the species the mandibles are long, curved, and simple.

PINOPHILUS RUBRIPENNIS, Fvl. Fig. 4.
P. jejunus, Lea.

This species varies in the colour of the abdomen from entirely dull reddish-brown or black to black, with the two apical segments and the tips of all the others reddish, the head varies from a dingy-brown to black, and the legs, from almost the same shade of colour as the elytra, to pale flavous. The type of *P. rubripennis* was from New South Wales, of *P. jejunus* from North-western Australia, but the species also occurs in Queensland.

PINOPHILUS MACLEAYI, Duv.

A specimen from Broadmeadows (Victoria) in Mr. Oke's collection, has the head and prothorax of a rather dark castaneous, the elytra darker and the abdomen almost black, except that its tip and sides are obscurely paler.

PINOPHILUS LATEBRICOLA, Blackb.

Three specimens from Coburg (Victoria) possibly belong to this species, but they differ from typical ones in having the jaws about one-fourth longer and less suddenly departing from the general curvature at the inner base. With the jaws clenched the differences could not be noted, but when open they are at once evident; they are not sexual, as a male of each form has been compared.

Pinophilus major, n. sp. Fig. 5.

♂. Black; mouth parts, antennae, palpi, and tarsi reddish. Rather densely clothed with short, subdepressed, ashen pubescence; a few hairs on head and numerous ones about apex of abdomen.

Head strongly transverse; with crowded and not very large but sharply-defined punctures, becoming sparser, but still fairly numerous in front of a semicircular, shining line connecting the antennary tubercles. Mandibles long, thin, curved, and simple. Antennae long and very thin. Prothorax scarcely as long as the greatest width, hind angles strongly rounded off, front ones almost square, apex truncated except for a slight incurvature towards each side; with crowded punctures, much as on base of head; median line represented by a feeble remnant near base. Elytra very little longer than prothorax and scarcely as wide as its apex, very little longer than wide; punctures somewhat denser and more angular than on prothorax, and in places partly transversely confluent. Abdomen with crowded, suboblong punctures at base of most of the segments, becoming smaller and less crowded posteriorly, apex of apparent sixth segment triangularly notched on under-surface. Front femora very stout and obtusely dentate, four basal joints of front tarsi forming a very wide pad. Length, 20-25 mm.

Hab.—New South Wales: Darling River, in flood *debris* (R. Helms); North-western Australia (Dr. A. M. Morgan).

The largest species as yet recorded from Australia, from *P. australis,* the next in size, the present species differs in having the mandibles quite simple, the legs darker, elytra longer, and body winged. On close examination a few minute punctures may be seen scattered amongst the larger ones on the front part of the head. On the type two basal joints of the antennae are partly black, the front tarsi are much paler than the others, the knees and tip of abdomen are obscurely reddish. The specimen from North-western Australia has the front legs entirely reddish, and the others with only part of the femora infuscated.

Pinophilus punctifrons, n. sp.

♂. Black; antennae (most of the joints partly infuscated), palpi and tarsi more or less reddish. Rather densely clothed with dark pubescence, sparser on head (parts of which are glabrous) than elsewhere; in addition with rather long hairs scattered about, and becoming numerous on apex of abdomen.

Head strongly transverse, hind angles moderately rounded off; punctures of moderate size, sharply defined and irregularly distributed. Mandibles long, thin, curved, and simple. Antennae long and very thin, all the joints much longer than wide. Prothorax about as long as the apical width, apex (except for a feeble incurvature towards each side) truncate, sides gently rounded but hind angles strongly rounded; punctures much as on base of head; median line distinct only near base. Elytra about once and one-third the length of prothorax and very little wider than its apex; punctures rather more crowded, but scarcely larger. Abdomen with crowded angular, more or less confluent punctures at the base of most segments, becoming smaller posteriorly on each, apparent sixth segment triangularly notched at apex on under-surface. Legs not very long; front femora very stout, with a ridge ending as an obtuse tooth; front tarsi with four basal joints dilated to form a wide pad. Length, 19 mm.

♀. Differs in having the abdomen not notched and its tip obscurely reddish.

Hab.—New South Wales: Hay (A. M. Lea); Victoria: Murtoa.

A large, shining, black species, with simple mandibles, readily distinguished from all others known to me (except *P. marginellus,* which has tips of the elytra red, and very different mandbles) by an even row of four large setiferous punctures across the front of the head; between these and the basal third (where they are crowded) the punctures are very sparse and subseriately arranged; on close examination minute punctures may be seen scattered about.

Pinophilus apterus, n. sp. Fig. 6.

♀. Pale castaneous, abdomen darker, antennae, palpi, and legs paler. Rather densely clothed with dark pubescence, sparser on head than elsewhere, and with long hairs scattered about, becoming numerous on apex of abdomen.

Head strongly transverse, hind angles strongly rounded; with fairly large and sharply-defined punctures, crowded about base, forming an irregular double semicircle between antennary tubercles, and an irregular row in front; with minute ones scattered about. Mandibles long, thin, curved, and with a small acute tooth near base. Antennae rather long and thin, all of the joints longer than wide, and evenly decreasing in length after the third. Prothorax slightly transverse, hind angles strongly rounded, the front ones moderately so, sides gently rounded, apex considerably wider than base and just perceptibly wider than head; with crowded punctures, distinctly smaller than on head, the interspaces with very minute ones; median line very feeble, but traceable almost throughout. Elytra transversely oblong, narrower and much shorter than prothorax; punctures slightly larger and more crowded than on prothorax. Abdomen with crowded punctures on both surfaces. Front femora very stout, with a feeble, abruptly-terminated ridge; four basal joints of front tarsi forming a strongly-dilated pad. Length, 13 mm.

Hab.—New South Wales: Gosford (H. W. Cox). Unique.

An unusually robust, apterous species with transverse elytra. The jaws, when clenched, appear to be simple, but on relaxation they are seen to have a minute acute tooth near the basal swelling, much as on *P. mastersi,* which is a much narrower species, with very different abdomen. Its nearest ally appears to be *P. australis,* but the head has a shorter space between the eyes and neck, the tooth on each mandible is slightly more advanced and acute, the prothorax is distinctly transverse, and the punctures are slightly less dense. The type is almost certainly immature, but as it represents a very distinct species it was considered desirable to name it.

Pinophilus semiopacus, n. sp. Fig. 7.

♀. Black; antennae, palpi, and legs flavous, abdomen iridescent, its tip and the mandibles reddish; with rather dense black pubescence, and with numerous hairs scattered about.

Head strongly transverse, base obtusely bilobed; with crowded punctures of several sorts. Eyes unusually large. Mandibles long, acute, and each armed with a large, acutely bicuspidate median tooth. Antennae very thin, passing base of prothorax, all the joints longer than wide, but decreasing in length after the third. Prothorax about as long as apical width, hind angles strongly rounded, front ones almost square; with crowded punctures; median line feeble, but traceable almost throughout. Elytra slightly wider than prothorax and about once and one-third as long, sides gently rounded, the angles rather strongly so; with crowded punctures, slightly larger than on prothorax, and many transversely or obliquely confluent. Abdomen with punctures scarcely smaller but somewhat shallower than on elytra, more crowded and confluent

about the bases of the segments than elsewhere. Front femora very stout, with a thin and rather abruptly terminated ridge; front tibiae strongly dilated from base to beyond the middle, and then unevenly excavated on one side to apex; front tarsi with four basal joints inflated to form a very large pad. Length, 16-17 mm.

Hab.—Queensland: South Johnstone River (H. W. Brown), Cairns (E. Allen). Type, I. 12627.

The bicuspidate tooth on each mandible associates this species with *P. quadraticollis,* and *P. aeneiventris,* from which it differs in being much larger; from the former it also differs in having the prothorax not shagreened, although with unusually dense punctures, antennae longer, and elytra uniformly coloured; from the latter it differs also in the much more crowded and less uniform punctures; the latter has the abdomen more brightly iridescent. The head, from a semicircular space connecting the antennary tubercles, is shining in front, and opaque behind, the opacity due to the dense crowding of punctures, which (except near the shining part) cannot be individually distinguished; on the shining part there are numerous fairly large ones, very numerous small ones, and still more numerous minute ones irregularly intermingled. The punctures on the prothorax, although densely crowded, are seldom confluent, so that they are nearly all sharply defined, they are smaller than the large ones on the head. From certain oblique directions the elytra appear to be densely granulate. On both specimens the front femora and tibiae are, in parts, deeply infuscated. The front tarsal pad is unusually large, even for the genus, and its outer base is produced backwards to fit into a depression on the sides of the tibia; on *aeneiventris* it is somewhat smaller, but is otherwise similar. Where type numbers are given they are those of the South Australian Museum.

Procirrus, Latr., Cat., p. 197.

The species here referred to this genus have the head rather small, with a long neck, the antennae thin, with all the joints longer than wide, apical joint of maxillary palpi long and acuminate, prothorax at least twice as long as wide, sides of abdomen practically immarginate, four basal joints of front tarsi dilated and subquadrate, basal joint of middle ones much longer than the rest combined, hind ones with basal joint twice as long as the rest combined, and the fourth joint short, bilobed, and with a membranous flap. I have seen but one ex-Australian species, but the characters given by Erichson,[11] Lacordaire,[12], and Fauvel[13] seem conclusive.

CASTELNAUI, Fvl. N.S.W., V., S.A. VICTORIAE, Fvl. N.S.W., V.

Procirrus victoriae, Fvl.

The description of this species is but little more than a comparison with the ex-Australian *P. lefevrei,* but, such as it is, it agrees with three specimens before me, from Sydney and Melbourne, except that they are somewhat smaller—10-10.5 mm.

Procirrus dolichoderes, n. sp. Fig. 1.

♂. Black; elytra brick-red, antennae, palpi, and tarsi of a more or less dingy red, but in parts deeply infuscated. Clothed with short, depressed, ashen pubescence.

Head moderately large, narrowed in front of eyes and rounded behind them, towards base greatly narrowed, and with a long thin neck; with dense and sharply-defined punctures of moderate size. Mandibles long and acute,

(11) Erichson, Gen. et. Spec. Staph., p. 685.

(12) Lacordaire, Gen. Col., ii., pp. 102, 105.

(13) Fauvel, Ann. Mus. Civ., Gen., 1878, p. 506.

about middle with a strong double tooth. Antennae thin, none of the joints transverse, first as long as second and third combined, eleventh almost as long as ninth and tenth combined. Prothorax about twice as long as wide, widest near apex, sides slightly incurved near base, front angles completely rounded off; with dense punctures much as on head, but becoming coarser near base. Elytra about the length of prothorax, but conspicuously wider, and slightly wider than head, angles rounded off; with dense and rather deep punctures, somewhat larger than on base of prothorax. Abdomen about half the total length, with crowded punctures; subapical segment feebly incurved at apex on under-surface, the apical one deeply notched. Legs long and thin, hind tibiae with a conspicuous projection near outer apex; front tarsi stout, four basal joints lopsided, fifth thin; middle and hind tarsi thin, the basal joint distinctly longer than the rest combined. Length, 10-11 mm.

Hab.—Victoria: Geelong and Portland (H. W. Davey).

Close to the species I have identified, with some doubts, as *P. victoriae*, but head narrower, antennae longer, and elytra entirely pale. At first glance the derm appears to be opaque, but this is entirely due to the short clothing. The neck, thin as it appears from above, appears much thinner from the sides; it has a thin ridge, and this may be traced as an impunctate line to half-way between the eyes. From above the abdomen appears to be immarginate, but on the sides feeble ridges may be seen towards the base of most of the segments. The punctures on the under-surface are much as on the elytra, except on the head, where they are more rugose, with the interspaces opaque or shagreened. The basal joint of the hind tarsi is almost twice as long as the rest combined.

Procirrus opacus, n. sp.

♂. Opaque piceous-brown, head and most of abdomen still darker. Basal half of antennae, maxillary palpi, mandibles and legs reddish, labial palpi, apical half of antennae and tarsi paler. Clothed with very short, depressed, ashen pubescence.

Head rather long, constricted in front of eyes, rounded behind them, and with a long and thin neck, a very thin ridge on basal half; with crowded and rather small but sharply-defined punctures. Mandibles long and acute, with a strong double tooth before the middle. Antennae long and thin, basal joint rather stout and almost as long as second and third combined, apical joint distinctly longer than tenth, median joints slightly shorter and thinner than the others. Prothorax fully twice as long as wide, sides widest in front, slightly incurved near base, front angles rounded off, a very narrow ridge on basal two-thirds; with crowded punctures, somewhat coarser than on head, especially at base. Elytra conspicuously wider than prothorax, and about the same length; with somewhat similar punctures. Abdomen long; with crowded punctures; a short feeble ridge on most of the segments on each side representing the margins, but the sixth with a narrow slit on each side; under-surface of subapical segment with an equilaterally triangular notch. Legs long and thin; hind tibiae with a projection near outer apex; front tarsi with four basal joints large and lopsided, hind tarsi very long, the basal joint more than twice as long as the others combined, middle tarsi shorter but somewhat similar to the hind ones. Length, 9-11 mm.

Hab.—North-western Australia: Derby (Dr. A. M. Morgan), Fortescue River (W. D. Dodd). Type, I. 12656.

In general close to *P. dolichoderes*, but the derm really opaque and not apparently so only; the elytra are of the same dingy colour as the prothorax, this is less rounded in front and the legs and antennae are paler. The punctures cause the prothorax to appear densely and finely granulate.

Procirrus antiquus, n. sp.

♂. Opaque-black; antennae, palpi, mandibles, and legs more or less reddish. Densely clothed with very short ashen pubescence. Length, 7.5 mm.

Hab.—North-western Australia: Derby (W. D. Dodd). Type (unique), I. 12657.

The dingy pubescence on the opaque derm give the whole insect a dingy, rusty appearance; the darker parts of the abdomen (except the tip) are entirely black, but the softer parts cause the tip of each segment to appear reddish. Structurally it is very close to the preceding species, but differs in being much smaller, black, the punctures on the head smaller and denser, and in consequence less sharply defined, the ridge on the prothorax shorter and less conspicuous, the notch on the abdomen much wider, and the slit on each side of the sixth segment very faint. From some directions the elytra and most of the prothorax appear multi-granulate.

In forcing out the mandibles they were unfortunately injured, but the parts that are visible are as on the preceding species.

Procirrus ferrugineus, n. sp.

♀. Of a dingy rusty reddish-brown; mouth parts, antennae, palpi, elytra, and legs paler, head almost black. Densely clothed with short, ashen pubescence, becoming longer on tips of abdominal segments.

Head rather small, moderately convex, hind angles strongly rounded off, with a short narrow neck; with crowded and rather small punctures. Mandibles long and acute, a strong tooth near the middle. Antennae rather short, first joint as long as second and third combined, second almost as long as third and fourth combined, fifth to ninth as long as wide, or feebly transverse, tenth longer, eleventh still longer. Prothorax about twice as long as wide, widest at apex, which is about the width of head, sides feebly diminishing in width posteriorly, all angles gently rounded off, with a faint median ridge on basal half; punctures crowded and slightly larger than on head. Elytra about as long as prothorax, and somewhat wider, shoulders rounded, sides thence parallel to near apex; with rather coarse crowded punctures. Abdomen more than half total length; with dense asperate punctures, becoming crowded at the base of each segment; sides immarginate. Legs not very long; front tarsi with four basal joints strongly dilated; middle tarsi scarcely as long as the front ones, the basal joint as long as the rest combined; hind tarsi slightly longer than the middle ones, the basal joint considerably longer than the others combined; hind tibiae

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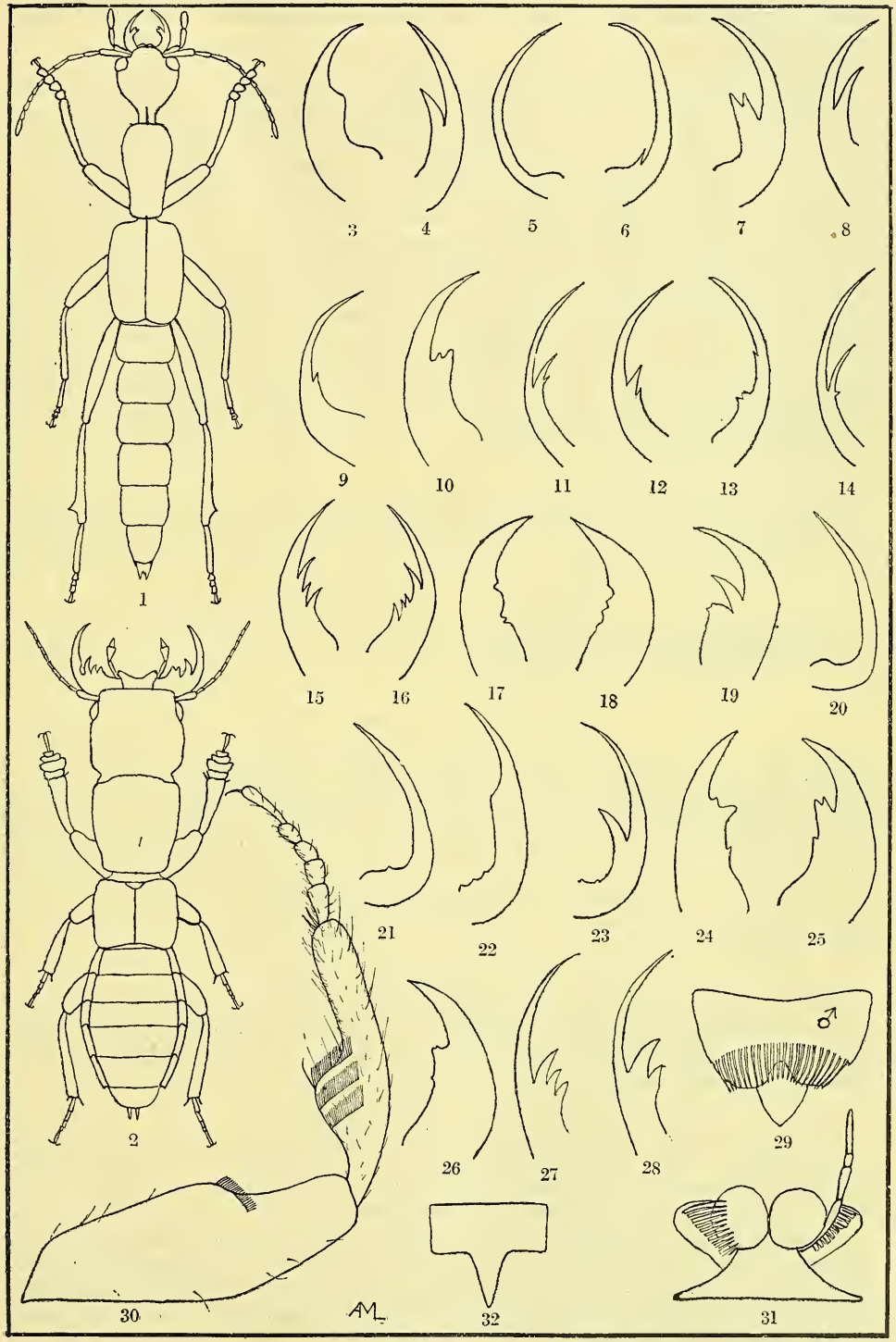
EXPLANATION OF FIGURES.

Fig.
1. *Procirrus dolichoderes*, Lea.
2. *Macrodicax potens*, Lea.
3. *Pinophilus marginellus*, Fvl. Mandible.
4. „ *rubripennis*, Fvl. Mandible.
5. „ *major*, Lea. Mandible.
6. „ *apterus*, Lea. Mandible.
7. „ *semiopacus*, Lea, Mandible.
8. *Palaminus bivittipennis*, Lea. Mandible.
9. *Oedichirus cribricollis*, Lea. Mandible.
10. *Paederus wilsoni*, Lea. Mandible.
11. *Astenus noctivagus*, Lea, Mandible.
12. „ *mandibularis*, Lea. Mandible.
13. „ *mandibularis*, Lea. Mandible.
14. „ *ambulans*, Lea. Mandible.
15. *Medon lugubris*, Lea. Mandible.
16. „ *lugubris*, Lea. Mandible.
17. *Lathrobium orthodoxum*, Lea. Mandible.

Fig.
18. *Lathrobium orthodoxum*, Lea. Mandible.
19. „ *abdominale*, Lea. Mandible.
20. *Hyperomma globuliferum*, Lea. Mandible.
21. „ *cylindricum*, Lea. Mandible.
22. „ *labrale*, Lea. Mandible.
23. „ *bryophilum*, Lea. Mandible.
24. *Dolicaon alatus*, Lea. Mandible.
25. „ *alatus*, Lea. Mandible.
26. „ *alatus*, Lea. Mandible.
27. *Cryptobium hoplogastrum*, Lea. Mandible.
28. „ *bicuspidatum*, Lea. Mandible.
29. *Astenus pectinatus*, Fvl. Tip of abdomen.
30. *Domene pectinatrix*, Lea. Front leg.
31. *Hyperomma globuliferum*, Lea. Part of mouth.
32. *Cryptobium hoplogastrum*, Lea. Third segment of abdomen.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slightly dilated from base to near apex, the outer side then notched to apex. Length, 7.5 mm.

Hab.—Victoria: Ararat (H. W. Davey). Unique.

Differs from all other species here referred to *Procirrus* in having the neck more suddenly defined from the head, although not longer, and the middle and hind tarsi with the basal joint shorter, although still of great comparative length. It is about the size of *P. castelnaui,* but is apparently a considerably paler insect; the description of that species, however, is but little more than a comparison with the ex-Australian *P. saulcyi.* The derm itself is somewhat shining, but owing to the clothing appears subopaque. Seen directly from above the black part of the head (excluding the neck) appears almost circular, but when viewed from behind it appears parallel-sided for some distance. The tooth on the left mandible (the only one visible on the type) is truncated at the apex, but may have been damaged in manipulation. From some directions both prothorax and elytra appear to be closely granulate. The largest and most sharply-defined punctures are on the metasternum and under-surface of abdomen.

There is a specimen of this species in the Australian Museum (K. 21538) from Singleton (New South Wales).

PALAMINUS, Er., Cat., p. 198.

In addition to the species here listed Blackburn[14] has recorded two others *(P. novaeguineae,* Fvl., and *P. vitiensis,* Fvl.) as Australian, but probably in error.

AUSTRALIAE, Fvl. Q., N.S.W., V., N.W.A., Lord Howe Island.
malandanus, Bernh., Arkiv for Zool., xiii. (No. 8), p. 8.
MACULATUS, Bernh., *l.c.,* p. 9. Q., N.S.W.

PALAMINUS AUSTRALIAE, Fvl.

Specimens of this species are before me from Queensland (Cairns, Mount Tambourine, and Goodna), New South Wales (Wollongong and Sydney), Victoria (Alps and Dividing Range), and Lord Howe Island. The abdomen is more castaneous than the rest of the upper-surface, the elytra are uniformly flavous, except that on some specimens parts adjacent to the suture are as dark as the abdomen; the size varies from 2.5 to 4.5 mm. The longitudinal elevation on the prothorax varies from a feeble subbasal tubercle to a moderately long carina. It appears probable that *malandanus* was named from small specimens of the species.

PALAMINUS MACULATUS, Bernh.

On the typical form of this species the elytra are dark with the suture, tips, and shoulders pale, but the dark parts vary in intensity, and on some specimens are reduced to a sutural blotch on the basal half (two such specimens were identified by Blackburn as *P. novaeguineae).*

Palaminus bivittipennis, n. sp. Fig. 8.

Castaneous, elytra black with castaneous markings, mouth parts, antennae, palpi, and legs castaneous. With fairly numerous golden setae, or hairs, longer and more numerous on abdomen than elsewhere.

Head strongly transverse; with rather numerous, large, sharply-defined punctures. Eyes large, occupying most of the sides between antennae and base. Antennae long and thin, none of the joints transverse. Prothorax distinctly transverse, basal angles strongly rounded, sides increasing in width to apex,

[14] Blackburn, Trans. Roy. Soc. S. Austr., 1895, p. 204.

which is truncate; punctures much as on head. Elytra much wider than prothorax and about twice as long, sides gently rounded; punctures slightly larger, denser, and more angular than on prothorax. Abdomen long, four segments and base of another with characteristic sculpture of the genus; anal styles very long and thin. Front femora stout, obtusely dentate; front tibiae rather short, strongly dilated to apex, four basal joints of front tarsi large and lopsided; other legs rather long and thin. Length, 5-6 mm.

Hab.—Northern Queensland (Blackburn's collection). Type, I. 12429.

Two specimens are paler than the others, with the abdomen not much darker than the prothorax, on the others the abdomen (except the tips of the segments) is almost black. The darker specimens have the four basal joints of the front tarsi larger and more conspicuously lopsided than on the others and are probably males; I have been unable to find any other characters that appear to be sexual. The dark parts of the elytra vary in intensity, but in general may be considered as forming a dark U on each elytron (from each shoulder a pale vitta extends about to the middle on two specimens, almost to the apex on the others; the tips are also narrowly pale). In the middle of the prothorax there is a slightly elevated subtubercular space that appears to be the remnant of a median carina. Of the four specimens before me two were identified with doubt, by Blackburn, as *P. vitiensis*, Fvl., but they do not agree with the description, as on one of them the head and prothorax are uniformly dark castaneous, and on the other uniformly pale castaneous (the specimens before Fauvel had the prothorax trivirgate), and there are other differences from the description.

OEDICHIRUS, Er., Cat., p. 201.

ANDERSONI, Blackb. S.A., W.A.
GENICULATUS, Lea. V.
GRANDIS, Bernh. Arkiv. for Zool., xiii. (No. 8), p. 7. Q.
INTRICATUS, Fvl. Q., N.T.
PAEDEROIDES, Macl. Q., N.S.W.
RUBRICOLLIS, Fvl. N.S.W.
TERMINALIS, Lea. N.W.A., N.T.
TRICOLOR, Lea. Vic., Tas.

OEDICHIRUS GRANDIS, Bernh.

A specimen, from Mount Tambourine, agrees with the description of this species, except that it is smaller (5.5 mm.); but as several species vary considerably in length, apart from post-mortem contractions, the difference in size is probably of no importance.

Oedichirus cribricollis, n. sp. Fig. 9.

♀. Black; antennae, palpi, and legs flavous, mandibles, labrum, and coxae with a slight tinge of red. Clothed with straggling, ashen setae.

Head small and (between labrum and base) transverse; with numerous large punctures, sparser in middle than elsewhere. Eyes large, about one-fourth longer than basal joint of antennae. Mandibles long and acute, with a rather small acute tooth about middle. Antennae thin, first joint almost as long as second and third combined, third slightly longer than second and slightly shorter than fourth. Prothorax slightly longer than greatest width, which is near apex, strongly rounded in front, behind the greatest width strongly obliquely narrowed to base; with irregular rows of very large punctures. Elytra small, sides strongly rounded; with rather numerous, large, deep punctures. Abdomen more than half the total length, most of the segments on the upper-surface with large oblong punctures, close together at base, then with round ones not so close together, and smaller ones about tips; on under-surface the punctures are somewhat similar but more numerous; anal styles long and acute. Legs rather long and thin, hind tibiae subtriangularly dilated and notched near outer apex. Length, 10 mm.

Hab.—Queensland: Cairns (A. M. Lea). Type (unique), I. 12615.

In general appearance like a large specimen of *O. grandis* (the only other Australian species having the prothorax black), but with longer and thinner legs, knees very little darker than the adjacent parts, instead of conspicuously black, and elytra of different shape; on *grandis* they are distinctly wider than long, with the sides almost evenly rounded, although narrower at base, on the present species they are scarcely wider than long, and (with rounded outlines) increase in width from base almost to apex. All the punctures are large and sharply defined, but those on the prothorax are largest of all.

Oedichirus cribriventer, n. sp.

♂. Blackish; mouth parts, antennae, palpi, prothorax, and legs more or less flavous. With long, straggling, ashen hairs.

Head (excluding neck) transverse, with rather large and deep punctures. Mandibles long and acute, each with a rather small acute tooth about the middle. Antennae thin, none of the joints transverse. Prothorax scarcely as long as the greatest width (almost at apex), sides strongly decreasing in width to base, with large and irregular punctures, crowded in places, but leaving a rather narrow and irregular median line. Elytra small, sides rather strongly rounded, apex much wider than base; with large and rather dense punctures. Abdomen more than half the total length; with large and dense punctures, becoming oblong at the base of each segment on the upper-surface, and rather less so on under-surface; subapical segment with a shallow depression on under-surface, its tip with a small and wide triangular notch. Legs rather long and thin, hind tibiae subtriangularly dilated and notched near outer apex. Length, 7.5 mm.

Hab.—Queensland: Gladstone (A. M. Lea). Type (unique), I. 12616.

Fairly close to *O. geniculatus,* but head black, legs entirely pale, elytra not entirely pale and with rather more numerous punctures; *O. rubricollis* has less irregular punctures on prothorax, legs partly and elytra entirely dark, etc.; *O. tricolor* has red head and prothorax, etc.; structurally it is close to *O. grandis,* but prothorax, elytra, and legs are very differently coloured and the punctures are somewhat different. At first glance the elytra appear to be as dark as the abdomen, but on close examination the base, suture, and tips are seen to be obscurely reddish.

PAEDERUS, Fabr., Cat., p. 203.

ADELAIDAE, Blackb. S.A.
ANGULICOLLIS, Macl.[15] Q., N.S.W., V., Tas., S.A.
tenuicornis, Fvl.
AUSTRALIS, Guer. Q., N.S.W., V., Tas., S.A., N.W.A., N.T.
CRUENTICOLLIS, Germ. Q., N.S.W., V., Tas., S.A., C.A.
cingulatus, Macl.
FUSCIPES, Curt. Australia. Introduced.
KOEBELEI, Blackb. Q., N.T.
MEYRICKI, Blackb. W.A.
antipodum, Bernh. and Schub.
erichsoni, Bernh., n. pr.
SIMSONI, Blackb. Tas., King Island.
SJOESTEDTI, Bernh. *(Pseudopaederus),* Arkiv for Zool., xiii. (No. 8), p. 9. Q.
SPARSUS, Fvl. N.S.W., S.A.
TWEEDENSIS, Blackb. Q., N.S.W., N.T.

PAEDERUS TWEEDENSIS, Blackb.

Of this species I wrote to Mr. G. J. Arrow: "Specimens in my collection seem very close to the British and European *P. fuscipes,* Curt., differing only slightly in colour of legs. I would be glad if you would compare the type with normal specimens of *fuscipes* (which has been recorded by Bernhauer as

[15] Incorrectly referred to as *angulatus* in Proc. Linn. Soc. N.S. Wales, 1904, p. 63.

occurring in Australia)." In reply he wrote: "I can see no difference of any importance."

PAEDERUS MEYRICKI, Blackb.

P. erichsoni, Bernh., n. pr.

P. antipodum, Bernh. and Schub.

The description of *P. erichsoni* agrees well with specimens of *P. meyricki,* and a cotype from Bernhauer in the Western Australian Museum also agreed with them. As *erichsoni* was previously used in *Paederus,* in the catalogue by Bernhauer and Schubert the name was changed to *antipodum.*

Paederus apteromelas, n. sp.

Black; elytra dark metallic-blue or green. Clothed with black pubescence, interspersed with erect black hairs.

Head moderately long; with conspicuous irregular punctures. Eyes prominent. Antennae moderately long and thin, third joint slightly longer than first, distinctly longer than fourth, and about twice the length of second, eleventh pointed and slightly longer than tenth. Prothorax slightly longer than its greatest width, which is near apex, front angles strongly rounded off, base truncate; punctures somewhat as on head. Elytra narrow at base, dilated to apex, where the width is slightly more than head across eyes; with crowded and rather large round punctures. Abdomen widest in middle; punctures rather dense but partially concealed. Legs rather long and thin. Length, 6.5-7.5 mm.

Hab.—Western Australia: Swan River (J. Clark). Type, I. 12041.

An apterous species, structurally close to *P. meyricki,* but readily distinguished from that, and from all other named Australian species, by its black prothorax. Most of the seven specimens sent by Mr. Clark have parts of the under-surface of the basal joints of antennae obscurely reddish, and two also have parts of the prosternum obscurely reddish.

Paederus stenopterus, n. sp.

♂. Black; mouth parts, basal joints of palpi, antennae (four or five median joints deeply infuscated), prothorax, four basal segments of abdomen, coxae, and base of femora more or less reddish or flavous, rest of legs moderately or deeply infuscated. Upper-surface with straggling black hairs, but very sparse on prothorax; elytra and abdomen with sparse inconspicuous pubescence.

Head fairly large; with large irregularly-distributed punctures, almost absent from a median space from between eyes to clypeus. Antennae rather long, none of the joints transverse, third twice the length of second. Prothorax strongly convex, strongly rounded in front, where the greatest width is almost twice the width of base; with a few scattered punctures. Elytra slightly longer than prothorax, but considerably narrower than its greatest width, strongly narrowed at base; with large and somewhat crowded punctures. Abdomen slightly dilated posteriorly, sixth segment largest of all; with fairly large and dense punctures near base of segments; under-surface of subapical segment deeply notched. Legs long and thin. Length, 6.5 mm.

Hab.—Northern Queensland (Blackburn's collection). Type, I. 12613.

An apterous species, with antennae coloured much as in the winged *P. koebelei;* of the other apterous species it differs in its partly pale abdomen, legs, and antennae from *P. meyricki, P. simsoni,* and *P. apteromelas; P. sparsus* is a considerably larger species, with entirely dark abdomen, etc. A female (South Johnstone River, H. W. Brown) that appears to belong to the species, differs from the type in being larger (7 mm.), four basal segments of abdomen

less conspicuously paler than the others (although not black), the subapical segment not notched, and the elytra of a brighter blue.

Paederus wilsoni, n. sp. Fig. 10.

♂. Black; elytra blue or purplish-blue, mandibles and prothorax red, antennae (four or five median joints infuscated), palpi, and most of the legs flavous. Upper-surface with long, straggling, black hairs.

Head moderately large; with fairly large but sparse punctures. Mandibles with an acutely bicuspidate tooth about middle. Antennae long, none of the joints transverse, first and third of equal length, and each about twice the length of second. Prothorax large, strongly convex, sides strongly rounded and at widest slightly wider than head; with a few scattered punctures. Elytra small, slightly shorter than prothorax and distinctly narrower; with large irregularly-distributed punctures. Abdomen large; with a few distinct punctures; under-surface of subapical segment with a rather narrow parallel-sided notch almost to base. Legs rather long and thin, front femora stout. Length, 7-9 mm.

♀. Differs in having abdomen slightly wider posteriorly, subapical segment not notched, and legs and antennae somewhat shorter.

Hab.—Queensland: Blackall Range in October (F. E. Wilson), Mapleton in November (H. Hacker). Type, I. 12859.

On several males the tibiae and tarsi are entirely pale, but not of a clear flavous, as are the bases of the femora; but on most of them the tibiae, at least, are infuscated about the base. The elytral punctures are rather large and sparse, and so impressed that the space immediately behind most of them appears to be granulate. It is an apterous species, nearer to *P. sparsus* than any other wingless one, but the elytra are subgranulate, abdomen with more conspicuous margins, and antennae with only the middle dark; the antennae are coloured as on some specimens of the winged *P. koebelei*. From the preceding species it differs in having the elytra smaller, abdomen entirely polished black, and maxillary palpi entirely pale.

DIBELONETES, Sahlb., Cat., p. 212.

Sharp[16] gives particulars as to how this genus may be distinguished from *Sunius* (equal *Astenus*), but it is doubtful if the Australian species now standing in it can be maintained as distinct from that genus.

ANTIPODUM, Bernh., Arkiv for Zool., xiii. (No. 8), p. 11. Q.

BREVICOLLIS, Lea *(Sunius)*. Q., N.S.W.

queenslandicus, Bernh., *l.c.*, p. 11.

MJOEBERGI, Bernh., *l.c.*, p. 10. Q., S.A.

PALAEOTROPICUS, Bernh. Q., N.T., Melville Island (? Introduced).

DIBELONETES BREVICOLLIS, Lea.

D. queenslandicus, Bernh.

A very variable species, occurring from Cairns in Queensland, to Dalmorton in New South Wales.

Form 1. Pale reddish-flavous; elytra, antennae, palpi, and legs still paler.

Form 2. Darker than preceding form; head with one, prothorax with two vague infuscations; elytra with more or less numerous infuscated spots, sometimes sharply defined but not conjoined; upper-surface of abdomen infuscated on each segment near margin. The majority of specimens belong to this form; on most of them the outer apical angles of the elytra, and a spot on each side of the suture, appear conspicuously flavous from some directions,

[16] Sharp, Biol. Centr. Amer., i. (Part 2), 1886, p. 601.

so that the elytra appear to be of three colours: a rather dingy flavous-red or ferruginous, piceous, and black or brown. The type female is of this form.

Form 3. The typical form of both *brevicollis* and *queenslandicus,* but a rather rare one.

There are many other forms before me, represented by but one or two specimens, but they may be all recognized by the comparatively short prothorax, and small subgranular elevations on elytra.

Dibelonetes mjoebergi, Bernh.

A somewhat variable species. The W on the elytra is usually sharply defined, but on three specimens is so faint as to be scarcely traceable; the infuscation of the sides of the prothorax is occasionally pronounced, but is usually feeble, or altogether absent. I took fifteen specimens in the Cairns district, and one near Adelaide.

Dibelonetes palaeotropicus, Bernh.

I have not seen the description of this species,[17] but received from the Stockholm Museum two specimens taken by Mjoberg at Malanda and identified by Bernhauer. The species is a variable one, but may be recognized amongst the allies of *Astenus* by its greatly flattened and long head and prothorax, the head with a median line (infuscated or black), and the prothorax with a median line and a marginal one on each side (also infuscated or black). The elytra and abdomen have markings which vary in number and intensity. On two specimens the markings on the whole of the upper-surface are, however, very faint. Specimens under examination are from Cairns, Kuranda, and Melville Island.

Astenus, Steph., Cat., p. 213.

(*Sunius,* Er., a synonym, and *Astenognathus,* Reitt., a subgenus.)

apiciflavus, Lea *(Stenus).* N.S.W.
australicus, Bernh. W.A.
cylindricus, Macl. *(Stenus).* Q., N.S.W., V., W.A.
  var. *australasiae,* Fvl.
favosus, Lea *(Stenus).* Q.
guttulus, Fvl. *(Stenus).* Q., N.S.W., V., Tas., S.A., W.A., Lord Howe and Norfolk Islands.
hackeri, Lea *(Stenus).* Q.
indicus, Kr. (Subg. *Astenognathus).* Q., N.S.W., V., Tas., S.A., W.A. (also Europe, Africa, and Asia).
  aequalis, Blackb. *(Sunius).*
  oculatus, Sharp *(Sunius).*
  pallidulus, Woll.
  parviceps, Ragusa.
pectinatus, Fvl. *(Sunius).* N.S.W.
rotundicollis, Macl. *(Scopaeus),* Cat., p. 251. Q.
simsoni, Lea *(Sunius).* Tas.
trilineatus, Lea *(Sunius).* N.S.W.

Astenus australicus, Bernh.

Mr. J. Clark took two specimens of this species on the Swan River, from a nest of *Ectatomma metallicum;* they measure 3.5 and 3.75 mm.

Astenus guttulus, Fvl.

Two specimens from Cairns, and one from Darwin, possibly belong to this species, but they differ from typical ones in being somewhat thinner (the prothorax is distinctly, but slightly longer) and the spot on each elytron more elongate, and extending from just before the middle to about one-sixth from

[17] It is not mentioned in the Catalogue, but is recorded in Arkiv for Zool., xiii. (No. 8), p. 11.

apex, instead of rounded and submedian; on all three the head is no darker than the prothorax, the subapical segment of abdomen is entirely, and the apical segment partly black; but specimens of *A. guttulus* frequently vary in colour of head and abdomen.

Astenus indicus, Kraatz.

I asked Mr. G. J. Arrow to kindly compare the types of *A. aequalis, A. pallidulus,* and *A. indicus.* In reply he wrote: "I have compared the types of *aequalis,* Blackb.; *pallidulus,* Woll; and *oculatus,* Sharp, with a specimen from Ceylon received from Kraatz as *S. indicus,* and I believe all to be the same."

Astenus pectinatus, Fvl. Fig. 29.

An apterous male, taken from rotting leaves on Mount Tambourine, has such a remarkable comb on the under-surface of its abdomen that I think it is either an immature specimen of this species (described originally as from Sydney), or represents a variety of it; the comb is composed of about twenty long, shining, black bristles, and extends across almost the entire width of the antepenultimate segment. Its elytra are decidedly shorter than the prothorax, their apical half is flavous, and the basal half slightly darker than the prothorax, with the sides strongly rounded, and the comb-bearing segment is slightly infuscated at the base of its upper-surface. The mandibles are much as I have figured them for *A. noctivagus.*

Astenus noctivagus, n. sp. Fig. 11.

♂. Piceous-brown or black; mouth parts, mandibles, antennae, palpi, and legs flavous, tips of elytra, and of most of the abdominal segments obscurely flavous. Clothed with very minute ashen pubescence, sides of head and of prothorax with a few stiff setae, sides and tip of abdomen with longer hairs.

Head rather large; with shallow reticulate punctures. Mandibles long and acute, each about middle with a long acute tooth, which is itself dentate. Antennae thin, none of the joints transverse. Prothorax dilated to near apex, and then strongly narrowed to apex itself, which is narrower than base. Elytra slightly longer than prothorax and conspicuously wider, angles gently rounded, sides almost parallel; with dense and sharply-defined punctures. Abdomen with dense and small punctures, subapical segment triangularly notched at apex of under-surface. Length, 3.5-4 mm.

♀. Differs in having the head and prothorax somewhat smaller, and abdomen not notched.

Hab.—Queensland: Cairns, nine specimens obtained at lights (A. M. Lea); New South Wales: Sydney (Dr. E. W. Ferguson). Type, I. 12402.

Close to *A. apiciflavus,* but apex of elytra narrowly pale, instead of widely flavous; the pale portion being only about one-third that of *apiciflavus,* and hardly more than that of the tips of the abdominal segments. On several specimens the elytral suture is obscurely diluted with red. On several the head and prothorax are almost black, on others they are of a more or less dingy brown; they are really opaque, but the elytra and abdomen are shining, although the derm is partially concealed by the clothing. Ample wings are present.

Astenus majorinus, n. sp.

♀. Black; mouth parts, mandibles, antennae, palpi, and legs flavous. Clothed with very short ashen pubescence, the sides with a few stiff setae. Length, 5.25-6.75 mm.

Hab.—Queensland: Cairns district (A. M. Lea). Type, I. 12404.

Allied to the preceding species, and structurally as described, but considerably larger, antennae distinctly longer and thinner, each joint being at least twice as long as wide; on the preceding species each of the sixth to tenth joints is not much longer than wide. It is of the size of *A. favosus,* but is winged. The abdomen is really black, but owing to the clothing has a rusty appearance. A male belonging to the species is evidently immature, it differs from the type in being of a dingy red, with the tips of elytra and parts about the scutellum obscurely paler; the tip of its subapical segment is triangularly notched. Three specimens were obtained at lights.

Astenus mandibularis, n. sp. Figs. 12 and 13.

♂. Reddish-castaneous; mouth parts, mandibles, antennae, palpi, apex of elytra, legs, and most of abdomen flavous, an interrupted fascia on elytra, upper-surface of fourth segment of abdomen, and of part of seventh, black or blackish. Sparsely clothed with short pale pubescence, the sides with rather long dark setae or hairs.

Head rather large; with shallow reticulate punctures. Mandibles long and acute, the left one with an acutely bicuspidate tooth before the middle, the right one in addition with a minute tooth beyond the middle. Antennae thin, first joint as long as three following combined, ninth and tenth scarcely longer than wide. Prothorax scarcely longer than the greatest width, which is near apex, sides obliquely narrowed to near base, and strongly rounded to apex, punctures as on head. Elytra distinctly longer and wider than prothorax; with dense sharply-defined punctures and a few obtuse granules. Abdomen less than half the total length, subapical segment triangularly notched almost to base on under-surface. Length, 4.25-4.75 mm.

Hab.—Queensland: Cairns district (A. M. Lea). Type, I. 12411.

The elytral fascia is of irregular shape, and touches neither suture nor sides, the space posterior to it is considerably paler than that anterior to it, although the latter is not of so bright a red as the prothorax. In appearance fairly close to some forms of *A. brevicollis,* but the dark elytral markings confined to a median space (and very conspicuous there), the elytra with fewer subgranular elevations, the prothorax somewhat longer, and only one abdominal segment dark, and that on the upper-surface only. From the description of *A. pectinatus* it differs in being larger, elytra paler beyond than before the black markings, and the fourth segment of abdomen black. It is much larger than *A. guttulus,* elytra with black markings irregularly transverse, and their apex pale.

A female (from North Queensland, Blackburn's collection) differs from the type in having the head and prothorax almost black, the elytra black except at the apex, and the fifth segment of abdomen the only conspicuously pale one; it agrees in many details with the description of *A. (Dibelonetes) antipodum,* but differs in the abdomen, although at first glance the three basal segments appear to be as dark as the fourth, in certain lights they are seen to be distinctly less dark. It, and the type (a third specimen has the mandibles clenched) have the mandibles, side for side, exactly alike.

Astenus ambulans, n. sp. Fig. 14.

♀. Pale castaneous; antennae, palpi, and legs flavous, basal two-thirds of fifth segment of abdomen black. Very minutely pubescent; the sides with sparse black setae, becoming numerous about apex of abdomen.

Head rather large; with shallow reticulate punctures. Mandibles long and acute, each near middle with a long acute tooth, and which has a minute basal projection. Antennae thin, some of the median joints not much longer than wide. Prothorax very little longer than the greatest width, which is near apex,

sides strongly rounded to apex; punctures as on head. Elytra rather narrow, less than the greatest width of prothorax, shoulders rounded; with dense and sharply-defined punctures. Abdomen somewhat dilated posteriorly, where the greatest width is equal to that of head; punctures fairly dense and sharply defined on under-surface, less sharply on the upper. Length, 3.25-3.5 mm.

Hab.—New South Wales: Ourimbah, from rotting leaves (A. M. Lea).

The elytra are almost parallel-sided, but are small and do not cover wings (I have dissected two specimens to be sure of this); their apical half is paler than the basal half, but the two shades of colour are not sharply limited; on each side near the base, and invisible from above, there is a slight infuscation, part of the metasternum is also slightly infuscated. At first glance the specimens look like rather narrow ones of *A. indicus,* but that species is winged; they are narrower and less opaque than the specimens I have identified as belonging to *A. australicus,* and the elytral punctures are much more sharply defined.

A male (from Ulverstone, Tasmania) is evidently an immature specimen of the species; it differs from the type in being smaller, very pale castaneous, no parts black or infuscated, the two shades of colour on the elytra still less defined, the joints of the antennae somewhat longer, the under-surface of the fifth segment of abdomen with a shallow subapical depression, and the sixth deeply incised.

Astenus tardus, n. sp.

♂. Pale flavo-castaneous; antennae, palpi, elytra, and legs pale flavous. Clothed with very short whitish pubescence, and with long, straggling, black hairs.

Head rather large; with shallow, reticulate punctures. Antennae thin, none of the joints transverse, but ninth and tenth very little longer than wide. Prothorax scarcely as long as greatest width (near apex), which is almost equal to that of head; sides strongly but unequally rounded; punctures much as on head. Elytra slightly wider and slightly longer than prothorax; with dense and sharply-defined punctures, and with a few rows of feeble piliferous granules. Abdomen rather wide; with denser punctures than on prothorax, but smaller and less sharply defined; subapical segment with a deep, triangular notch. Length, 3.75 mm.

Hab.—Queensland: Mount Tambourine (A. M. Lea). Type (unique), I. 12406.

From some directions the upper-surface of the abdomen, as well as the elytra, appear to have feeble rows of granules, but they are placed transversely. The species in general appearance is strikingly like Form I of *A. brevicollis,* but it is apterous; it is considerably wider than the preceding species, and the elytra are granulate. The mandibles of the type were broken in manipulating them for examination.

Stilicopsis, Sachse, Cat., p. 220.

TRINOTATA, Kraatz. Q. Introduced.

Stilicus, Latr., Cat., p. 223.

ORBICULATUS, Payk. Tas. Introduced.

Stilicus orbiculatus, Payk.

A specimen, from Launceston, agrees perfectly with British specimens of this species; a widely distributed one, but now first recorded as Australian; five synonyms and varieties of the species are recorded in the catalogue.

Stilicus umbratus, n. sp.

♂. Dull reddish-brown; head and prothorax much darker (somewhat bronzy), mandibles, antennae, palpi, and legs flavous, or castaneous-flavous. With very short ashen pubescence, and with a few dark hairs scattered about.

Head rather large, moderately convex, and distinctly transverse, hind angles strongly rounded, neck very thin; punctures small and densely crowded, under-surface shagreened and with conspicuous punctures. Mandibles strong, acutely tridentate. Antennae extending to base of prothorax, first joint longer than second and third combined, second as long as fourth, and distinctly shorter than third, the others to tenth gradually becoming shorter and more globular. Prothorax much narrower than head, hind angles strongly rounded, sides moderately dilated to near apex, and then strongly obliquely narrowed to neck; punctures much as on head. Elytra quadrate, longer and much wider than prothorax; with small crowded punctures, somewhat larger than on head and prothorax, and with large ones scattered about, and forming irregular rows. Under-surface of apical and subapical segments of abdomen notched in middle. Front femora very feebly dentate, front tibiae slightly notched about middle, front tarsi slightly wider and shorter than the others. Length, 4.25-4.5 mm.

♀. Differs in having the abdomen slightly wider and not notched, head slightly wider, and antennae and legs slightly shorter.

Hab.—Queensland: Cairns district and Mount Tambourine, sieved from rotting leaves (A. M. Lea). Type, I. 12637.

About the size of *S. orbiculatus,* and with somewhat similar outlines, except that the prothorax is more transverse, the head shorter, and antennae longer, the finer sculpture and the colours, however, are very different. The head and prothorax have an appearance as of dull bronze on the upper-surface, and of some specimens on the under-surface also; the elytra are usually paler than the abdomen, and the larger punctures, usually being darker than the adjacent surface, give them a speckled appearance; on several females almost the whole of the under-surface is not much darker than the legs; the elytra and abdomen usually have a faint coppery or bronzy tinge. The elytra are shining, the rest of the upper-surface opaque. The pubescence on the head and prothorax is extremely short and inconspicuous. The prothorax at first appears to be more transverse than it really is, owing to the sudden narrowing of the front to the neck; it is very feebly ridged along the middle, with two shallow depressions on each side of the ridge. The punctures on the head and prothorax are very small, but may be seen on close examination, on the abdomen they are so extremely small that the surface appears shagreened; many of the large punctures on the elytra are irregularly conjoined, so as to present the appearance of irregular striae; near the suture they are mostly isolated. The only specimen before me, from Mount Tambourine, has the whole of the upper-surface very dark (almost black) except that the tip of the abdomen is obscurely reddish; its elytra appear finely granulate, and with the large punctures more numerous than on the others; one from Cairns has the elytra and abdomen darker than usual, although paler than on the one from Mount Tambourine.

THINOCHARIS, Kraatz, Cat., p. 228.

BREVICORNIS, Fvl. Q. (also occurs in New Guinea).

TENUICORNIS, Lea *(Lithocharis),* Proc. Roy. Soc. Vict., 1909, p. 122. Q., N.W.A.

THINOCHARIS TENUICORNIS, Lea.

There are before me nine specimens, taken from rotting leaves at Mount Tambourine, that appear to belong to this species; they differ, however, from

the types in being shining and paler; on five of them the elytra and legs are pale flavous, the prothorax slightly darker, and the head slightly more reddish, but certainly not dark; on the others the elytra are as dark as the prothorax, and the head is distinctly darker but more castaneous than piceous. The species in appearance somewhat resembles *Medon debilicornis,* but it is at once distinguished by the antennae, the joints after the second on that species are comparatively short and transverse, on the present species they are decidedly longer and thinner, so that if drawn backwards the antennae would extend to the base of the prothorax, instead of scarcely to the middle. The subopaque appearance of the types may have been due to improper treatment; if it is natural the Queensland specimens should probably be regarded as representing a variety, or a distinct species.

MEDON, Steph., Cat., p. 231.

(*Hypomedon,* Muls. et Rey, p. 238; *Lithocharis,* Bois. et Lac., p. 241; and *Pseudomedon,* Muls. et Rey., p. 240, are subgenera.)

CAMPONOTI, Lea *(Lithocharis),* Proc. Roy. Soc. Vict., 1912, p. 41. Q., N.S.W.

CINCTUS, Fvl. *(Hypomedon).* Q. (also occurs in New Guinea).

DEBILICORNIS, Woll. *(Hypomedon).* Q., N.S.W., S.A., N.T., Norfolk Island. Introduced.

IGNITUS, Fvl. *(Hypomedon).* Q.

INCOMPTUS, Sharp *(Lithocharis, Ophiomedon,* and *Hypomedon),* Cat., p. 230. Q. Introduced.

LINDI, Blackb. *(Lithocharis).* S.A., W.A.

OBSOLETUS, Nordm. *(Pseudomedon).* Q. Introduced.

OCHRACEUS, Grav. *(Lithocharis).* Q., N.S.W., V., Tas. Introduced.

TRISTIS, Macl. *(Lithocharis).* Q., N.S.W., N.T., Lord Howe Island.

VARICORNIS, Blackb. *(Lithocharis).* V.

VILIS, Kraatz *(Lithocharis).* Q. Introduced.

MEDON OBSOLETUS, Nordm.

Several specimens were obtained from fallen leaves, at Cairns, that appear to agree perfectly with British and European specimens of this species. It was first recorded as Australian in the catalogue by Bernhauer and Schubert, and eight synonyms and varieties are there noted.

MEDON OCHRACEUS, Grav.

This cosmopolitan species was apparently first recorded as Australian in the same work as the preceding one; Australian specimens before me are from Queensland (where it is frequently attracted to lights) and Tasmania. Six synonyms of the species are recorded.

MEDON DEBILICORNIS, Woll.

Widely distributed in Australia, although first noted as Australian in the catalogue by Bernhauer and Schubert, who record four synonyms of it. A rather highly-coloured figure of the species is given under the name of *Lithocharis brevicornis.*[18]

MEDON VARICORNIS, Blackb.

This is probably only a slight variety of *M. tristis.*

MEDON CAMPONOTI, Lea.

Six specimens of this species were taken from a nest of *Camponotus aeneopilosus* at Glen Innes.

[18] Allard, Ann. Soc. Ent. Fr., 1857, pl. 14, Part 2.

Medon incomptus, Sharp.

A cotype of this species, from Hawaii, is in the South Australian Museum. Sharp described the elytra as "in medio transversim obscuratis," and again "with a dark cloud across the middle"; the cotype has the dark part so placed that it leaves almost the apical half pale and sharply defined, with a part of the base paler than the infuscated portion, but not sharply divided from it. Two specimens from Northern Queensland are structurally identical with the cotype, but differ to a slight extent in the elytral marking, both from it, and from each other. One from Kuranda in the British Museum has the basal two-thirds of prothorax blackish, but apparently from staining.

Sharp considered the species as allied to the American *Lithocharis compressa,* and that it was "probably a native of some part of the American continent." In the catalogue both species are referred to *Ophiomedon,* but *L. incomptus* appears to me to be clearly allied to *Medon (Hypomedon) debilicornis.*

Medon, sp.

Two specimens (sexes) of a species from Queensland (one was taken from a sticky seed of *Pisonia brunoniana* at Cairns) possibly belong to *M. (Charichirus) chinensis,* Boh.[19] Structurally the female agrees perfectly with an Indian female, received with the name from Dr. Cameron, except that the front tibiae are rather more dilated to apex. The male has the (apparent) fifth segment of its abdomen widely and shallowly concave on its under-surface, with the apex conspicuously incurved to middle (the following segments are contracted within the body); the space between the eyes on the under-surface of its head is densely and somewhat coarsely punctate (on the female the derm there is but finely punctate). The Queensland specimens have the reddish apical part of the elytra fairly wide on each side and narrowed to the suture, instead of dilated there as on the Indian one; so possibly the species is not *chinensis,* but an allied one.

In his diagnosis of *Charichirus* Sharp says, "*Tarsi omnes graciles, anteriores simplices*"; but on the Indian and Queensland specimens before me the four basal joints of the front tarsi are dilated so as to be almost twice as wide as those of the other tarsi.

Medon quadratipennis, n. sp.

♂. Black or blackish; mouth parts, antennae (the median joints infuscated), palpi, legs, under-surface of head and sterna more or less red, tip of abdomen obscurely reddish. With fairly dense ashen pubescence, sparser on prothorax than elsewhere, and with some rather short hairs scattered about.

Head between front of eyes and neck rather strongly transverse, sides almost parallel, hind angles scarcely rounded off; with dense and minute punctures, sparser (but still dense) and more sharply defined between antennary tubercles than elsewhere. Antennae passing base of prothorax, first joint subcylindrical, slightly longer than second and third combined, fourth slightly longer and thinner than second, and shorter than third, the others to tenth feebly decreasing in length and increasing in width, ninth and tenth transverse. Prothorax feebly transverse, width about equal to that of head, sides slightly decreasing in width to base, with a faint median line; punctures much as on head. Elytra quadrate;

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[19] The references in the catalogue by Bernhauer and Schubert are on pp. 231 and 243.
Subgenus Charichirus, Sharp, Ann. Mag. Nat. Hist. (6), II. (should be III.), 1889, p. 262.
chinensis, Boh.
obliquus, Walker.
spectabilis, Kraatz; Sharp, *lc.*, p. 227 (should be 263).
China, Japan, India, Ceylon, etc.

with very dense and minute punctures. Tip of abdomen notched on both surfaces. Front femora stout and edentate; front tibiae notched at about basal third; front tarsi with four basal joints slightly inflated (about twice the width of the others), basal joint of hind tarsi slightly longer than the two following combined. Length, 4-4.25 mm.

♀. Differs in having the head and prothorax slightly narrower, legs and antennae slightly shorter and abdomen not notched.

Hab.—Tasmania: Hobart from a tussock, Nubeena, Huon River (A. M. Lea); Victoria: Warburton in August (F. E. Wilson).

A dingy subopaque species, at first glance apparently belonging to *M. lindi*, or *M. tristis*, but elytra decidedly smaller (at most as long as wide, they are very little longer than the prothorax and scarcely as wide as its widest part); on *lindi* and *tristis* they are decidedly longer than wide, distinctly longer and conspicuously wider than the prothorax. I have made sure that wings are folded beneath the elytra. Of the six specimens before me most have the prothorax as dark as the head, but on one specimen it is obscurely reddish; the hind femora and tibiae (except the knees) are usually darker than the rest of the legs.

A male, taken from flood *debris* at Latrobe, appears to belong to this species, but differs in having the elytra flavous, except that their basal third is rather deeply infuscated.

Medon lugubris, n. sp. Figs. 15 and 16.

♀. Of a dingy opaque-brown; mandibles, palpi, and legs paler. With rather long, straggling, dark hairs, elytra and abdomen with dense ashen pubescence, becoming very inconspicuous on head and prothorax.

Head strongly transverse between front of eyes and neck, hind angles feebly rounded off; punctures minute and very dense. Mandibles long, acute, and strongly dentate. Antennae slightly passing base of prothorax, first joint as long as second and third combined, second slightly wider and very slightly shorter than third, ninth and tenth slightly transverse. Prothorax distinctly wider than long, rather closely applied to and slightly wider than head, front angles almost square, hind ones strongly rounded, with a very narrow but continuous median line; punctures as on head. Elytra at base slightly wider than widest part of prothorax, and very feebly dilated to near apex, at least half as long again as the prothorax, and with somewhat similar punctures. Abdomen with dense and very minute punctures. Front femora stout and edentate, front tarsi slightly wider and shorter than the others. Length, 4-4.25 mm.

Hab.—Queensland: Cairns district from fallen leaves (A. M. Lea), attached to a sticky seed of *Pisonia brunoniana* (F. P. Dodd). Type, I. 12635.

An unusually flat opaque species, about the size of *M. ochraceus*, but otherwise very different; it perhaps belongs to the subgenus *Charichirus*. The type has the head slightly paler than the prothorax, and the front angles of prothorax and base of elytra paler than the adjacent parts, but the two shades of colour not sharply limited. The specimen from *Pisonia* seed has the upper-surface almost black, except that the shoulders are inconspicuously reddish, and the legs and other appendages of a dingy red; on each specimen the apex of the (apparent) fifth segment of abdomen is obscurely pale. On both specimens there are four teeth on the right mandible and three on the left. From some directions the head, prothorax, elytra, and metasternum appear to be very densely and evenly granulate; the prothorax from some directions appears to have some of the punctures longitudinally confluent. The granulation of the under-surface of the head, including the mentum, is rather more conspicuous than on the upper-surface, the gular suture appears single for its greater extent.

Medon uniformis, n. sp.

Pale reddish-castaneous; antennae, palpi, and legs flavous. Elytra and abdomen with rather dense and somewhat golden pubescence, much less distinct on head and prothorax.

Head distinctly transverse, hind angles gently rounded off, with a very narrow median line; punctures dense and very minute. Antennae short, second joint slightly longer than third, the following ones to tenth feebly increasing in width and mostly transverse. Prothorax transverse, front angles almost square, the hind ones strongly rounded; punctures as on head. Elytra slightly longer than wide, slightly wider than widest part of prothorax, about once and one-half its length, and with somewhat larger and more sharply-defined punctures. Legs not very long, front femora stouter than the others and very feebly dentate. Length, 3.5-3.75 mm.

Hab.—Queensland: Mulgrave River (H. Hacker).

A small, pale, subopaque species, certainly close to *M. debilicornis* (and consequently belonging to the subgenus *Hypomedon)* but more opaque, larger, head conspicuously larger and less closely applied to the prothorax (owing to the longer neck); the elytra also, although slightly paler than the prothorax, are simply paler, rather than flavous. I have checked the types with a cotype and some other specimens of *debilicornis* from Hawaii, India, and Japan (identified by Drs. Cameron and Sharp), and the differences appear constant. It is about the length of *M. incomptus,* but is less robust and elytra not conspicuously bicoloured, being at most very feebly infuscated about the scutellum. *M. ignitus,* another almost uniformly coloured species, is described as being smaller, 3 mm., and with strong punctures; although in the description only the abdomen is mentioned as *"laeviusculo,"* in the table the species is associated with *M. cinctus* as having *"Corps tres brillant,"* whereas this species is very dull. The tip of the abdomen of each of the types is contracted, but on one of them (evidently a male) part of a notch is visible; from the other the notch appears to be absent. The middle of the prothorax is slightly produced to form (apparently) part of the neck; it has a very feeble median line, of which the only fairly distinct portion is a short shining line near the base. Except on the abdomen there are very few hairs scattered about.

Scopaeus, Er., Cat., p. 245.

BLACKBURNI, Bernh. and Schub. N.S.W.
femoralis, Blackb., n. pr.
DIGITALIS, Fvl. V., Tas., S.A., W.A.
DUBIUS, Blackb. Q., N.S.W., V.
INTEROCULARIS, Lea, Proc. Roy. Soc. Vict., 1912, p. 41. N.S.W.
LATEBRICOLA, Blackb. N.S.W., V., S.A.
OVICEPS, Bernh., Arkiv. for Zool., xiii. (No. 8), p. 13. Q., N.T.
OVICOLLIS, Macl. *(Stilicus).* Q., N.S.W.
ruficollis, Fvl.
OBSCURIPENNIS, Blackb. Q., N.S.W., V., S.A., W.A., C.A.
SULCICOLLIS, Steph. Q. Introduced.

Scopaeus oviceps, Bernh.

A specimen, from the Daly River, probably belongs to this species, but differs from the description in having the head and prothorax of a very dark castaneous-brown, although appearing black at a glance.

Scopaeus dubius, Blackb.

Five specimens from New South Wales and Victoria (one was taken from a nest of the ant *Dolichoderes scabaridus)* appear to belong to this species, but

differ from the description in having most of the joints of antennae slightly transverse, and the median ones slightly infuscated.

Scopaeus ctenocryptus, n. sp.

♀. Shining black; mouth parts, mandibles, antennae, palpi, and legs (femora darker) pale brown or testaceous. With very short ashen pubescence, denser on abdomen than elsewhere.

Head ovate, strongly rounded towards base and with a small narrow neck, depressed between antennae. Mandibles strong and acutely dentate. Eyes rather large. Antennae long, passing base of prothorax, first joint cylindrical, as long as second and third combined, third distinctly longer than second and fourth, the others gradually decreasing in length to tenth, but none transverse. Prothorax dilated from base to slightly in advance of middle, and then strongly narrowed to apex, which is the same width as the neck, a short median carina at the base, on each side of which is a shallow depression. Elytra much wider than prothorax, and slightly longer than prothorax and neck combined, angles strongly, the sides slightly rounded. Legs rather long, femora edentate. Length, 3.75-4 mm.

Hab.—Queensland: Mulgrave River (H. Hacker).

A black species, but differs from *S. digitalis* in being larger, head of somewhat different shape, with larger eyes, antennae much longer, with no joints transverse and at least five decidedly pale; the basal half of the antennae is distinctly darker than the apical half. The under-surface, especially of the abdomen, is not as dark as the upper-surface. The upper-surface of the abdomen is less shining than the other parts, owing to its denser clothing. The punctures are very minute, scarcely visible under a hand lens. There is a notch (invisible from many directions) at about the basal third of the front tibiae, and this is supplied with a comb of numerous small teeth, but the comb is so placed as to be visible with difficulty even under a compound power; under a hand lens it appears as an oblique ridge.

Scopaeus moerens, n. sp.

♂. Black; tarsi and parts of palpi obscurely paler.

Head between antennae and neck about as long as wide, hind angles gently rounded off. Antennae scarcely passing base of prothorax, first joint as long as second and third combined, fifth to tenth transverse. Prothorax distinctly longer than wide, apical third strongly narrowed to neck, a small median elevation at base. Elytra conspicuously wider and longer than prothorax, parallel-sided except at angles. Under-surface of abdomen notched in middle of apex of apparent sixth and seventh segments. Legs not very long, femora stout, the front ones feebly dentate; front tibiae notched and with a small comb at about basal third. Length, 2.25-2.5 mm.

♀. Differs in having the head slightly smaller, antennae and legs slightly shorter, and abdomen not notched.

Hab.—Western Australia: Newcastle, Darling Ranges, and Pinjarrah (A. M. Lea).

A very small species, in general appearance close to *S. latebricola,* but smaller and darker; *S. digitalis* is larger, with conspicuously pale tarsi. On some specimens the front legs are of a dingy brown, and on such the labial palpi are flavous; but at first glance the species appears to be entirely black. The head and prothorax are more shining than the other parts, but this is due to the very fine pubescence being sparser there than elsewhere. The punctures of the upper-surface are very dense and small, scarcely visible under a hand lens.

Scopaeus testaceipes, n. sp.

♀. Dark piceous-brown, most of abdomen black, basal and apical joints of antennae (the others slightly infuscated), palpi (except apparent apical joint of maxillary palpi) and legs pale brown or testaceous. Length, 2.25 mm.

Hab.—Victoria: Warburton, in August (F. E. Wilson), Bright (National Museum, from C. French). Type, I. 12861.

Close to the preceding species, and the description of the sculpture of the head, prothorax, and elytra applies equally well to the present one, but the prothorax is not so black, the antennae and legs are paler, with the median joints of the former slightly infuscated, the prothorax of the present species is also slightly wider, and the median elevation at its base is slightly larger. There are six of the preceding species before me, and three of the present, so the differences would appear to be constant. The front femora are feebly dentate, and the front tibiae are notched towards the base, but although a comb is probably there I have been unable to see it under the microscope.

Scopaeus mediicollis, n. sp.

♀. Pale castaneous-brown; antennae, palpi, and legs still paler, most of abdomen (both surfaces) infuscated.

Head subquadrate between antennae and neck (the latter very small). Eyes lateral and rather small. Antennae scarcely passing base of prothorax, first joint almost as long as three following combined, second no shorter than third and slightly stouter, fourth to tenth subglobular and slightly transverse. Prothorax slightly longer than wide, sides very feebly dilated from base (except for the rounded angles) to near apex, and then strongly narrowed to neck, with a shining median line almost throughout. Elytra not much wider than prothorax and very little longer. Front femora stout and feebly dentate, front tibiae slightly notched towards base. Length, 2-2.25 mm.

Hab.—Western Australia: Vasse River, in flood *debris* (A. M. Lea).

A flat minute species, smaller and flatter than *S. latebricola*, outlines of prothorax more angular, and with an almost continuous, shining, median line. On the type there is a slight infuscation about the base of the elytra, and its metasternum is as dark as the abdomen; on a second specimen the elytra and metasternum are no darker than the prothorax. The punctures and pubescence are both very minute, and scarcely visible under a hand lens; the former are slightly more conspicuous on the elytra than elsewhere.

A male, from the Swan River, that possibly belongs to this species differs from the type in being of a rather brighter colour and more shining (probably due to abrasion), the median line on the prothorax is more conspicuous, and the elytral punctures are (for the genus) rather sharply defined, the antennae are evidently longer, and fewer of the joints are transverse (but several are missing); the apparent sixth and seventh segments of its abdomen are deeply notched on the under-surface.

Scopaeus basicollis, n. sp.

♀. Bright reddish-castaneous; antennae, palpi, and legs flavous, part of elytra and most of upper-surface of abdomen infuscated. Pubescence very short and pale, rather dense on abdomen, sparser on head and elytra, very sparse on prothorax.

Head between antennae and neck distinctly transverse, hind angles rather strongly rounded, neck very small. Antennae with first joint as long as second and third combined, second the length of third and slightly stouter, fourth to tenth subglobular and gradually becoming transverse. Prothorax elliptic-ovate, apical third strongly narrowed to neck, a small median elevation at base, with

a conspicuous impression each side of it. Elytra much wider and slightly longer than prothorax, almost parallel-sided except for the rounded angles. Front femora fairly stout, scarcely visibly dentate; front tibiae notched at about one-third from base. Length, 2.75-3 mm.

Hab.—Queensland: Cairns district, five specimens obtained at lights (A. M. Lea). Type, I. 12860.

In general appearance close to *S. dubius* and *S. ovicollis,* but larger and base as well as apex of elytra pale, so that on several specimens the elytra appear to have a conspicuous infuscate fascia, and others to have a large spot on each, the dark parts not very sharply limited. The middle of the head is of the same bright colour as the prothorax, but the rest of its upper-surface is somewhat darker. On most of the specimens the median joints of the antennae are very feebly infuscated. There are some fairly distinct punctures on the front part of the head, and on the elytra they are rather sharply defined, although small; elsewhere they are scarcely visible. There are some sharp teeth on the mandibles, but these, as on other species of the genus, are usually so tightly clenched that it is difficult to force them out for examination. There is evidently a comb on the front tibiae, but I have been unable to see it clearly.

Scopaeus ooderes, n. sp.

♀. Reddish-castaneous; antennae, palpi, and legs paler, four basal segments of abdomen and part of the fifth, and the metasternum infuscated. Moderately clothed with very short ashen pubescence.

Head between antennae and neck (the latter very small) subquadrate, hind angles but feebly rounded; with very dense and small punctures. Eyes rather small and prominent. Antennae with first joint subcylindrical, as long as three following ones combined, second stouter and slightly longer than third, third to tenth subglobular, gradually becoming feebly transverse. Prothorax longer than wide, elliptic-ovate, apical third strongly narrowed to neck; punctures as on head. Elytra slightly longer and much wider than prothorax, and with slightly larger and more sharply-defined punctures. Abdomen (both surfaces) with very dense and small punctures. Front femora rather stout and very feebly dentate, front tibiae notched at about one-third from base. Length, 3.75 mm.

Hab.—Western Australia: Donnybrook (A. M. Lea). Unique.

Differs from type of *S. interocularis* in being somewhat larger, pale parts somewhat darker, the head uniformly coloured, metasternum almost as dark as abdomen and darker than rest of under-surface, and punctures of upper-surface more distinct. On close examination the median joints of antennae are seen to be slightly darker than the others, but they could scarcely be regarded as infuscated. The prothorax has a medio-basal elevation, but it is very feeble and invisible from most directions. The punctures on the under-surface of the head are dense, sharply defined, and slightly larger than those on the elytra, on the upper-surface between the antennae they are almost as large as those on the elytra.

Scopaeus flavocastaneus, n. sp.

♂. Pale flavo-castaneous and subopaque; head slightly darker, palpi and legs slightly paler. Almost uniformly clothed with very short ashen pubescence.

Head between antennae and neck (the latter very small) subquadrate, hind angles slightly rounded. Eyes small and prominent. Antennae rather long, first joint cylindrical, slightly longer than second and third combined, second as long as fourth and conspicuously shorter than second, eighth to tenth globular. Prothorax rather flat, not much longer than greatest width, which is about one-fourth from apex, from there strongly narrowed to neck. Elytra about the width of head and distinctly longer than prothorax. Under-surface of

abdomen with apparent sixth and seventh segments triangularly notched to base. Legs not very long, front femora stout and scarcely visibly dentate; front tibiae feebly notched at about one-third from base. Length, 3.75-4 mm.

♀. Differs in having slightly shorter antennae and legs, and abdomen not notched.

Hab.—Northern Territory: Oenpelli (P. Cahill); Queensland: Cairns district, to light; New South Wales: Tweed River (A. M. Lea). Type, I. 12639, in South Australian Museum; cotype in National Museum.

A pale almost opaque species, slightly above the average size of species of this genus and like *Domene australiae* in miniature, and much like *D. microps*, but without the remarkable front tibiae of those species. In some respects it apparently resembles *S. blackburni*, but the front legs are without conspicuous armature. From the preceding species it differs in being wider, with smaller punctures, especially on the under-surface of head, antennae longer, with the third joint conspicuously longer than second, abdomen no darker than elytra, etc. The punctures are everywhere dense, and too small to be seen clearly under a hand lens. There are remnants of a medio-basal elevation on the prothorax, with a depression on each side of it, but they are so feeble as to be invisible from most directions, and distinct from none.

DOMENE, Fvl., Cat., p. 253.

AUSTRALIAE, Fvl. Q., N.S.W., N.T. TORRENSENSIS, Blackb. S.A.

DOMENE AUSTRALIAE, Fvl.

Two specimens (5-6.5 mm.), from New South Wales, that appear to agree with the description of this species, differ from a cotype, and some other Adelaide specimens of *D. torrensensis*, in having the elytra somewhat shorter, the prothorax flatter, and without a median elevated line. The differences mentioned are distinct on seven specimens of *torrensensis*, and two of *australiae*, but are possibly only of varietal importance; if synonymous the latter has precedence. A specimen from Oenpelli, in the National Museum, has elytra of the same proportionate length as in *torrensensis*, but its prothorax is narrower and median line less conspicuous.

DOMENE TORRENSENSIS, Blackb.

Mr. H. H. D. Griffith took several specimens of this species during a flood on the Torrens River. Two of them are males, and have on the under-surface of the apparent fourth segment of abdomen a large and almost circular depression, on the following segment there is a wider and almost parallel-sided one, and the following segment is narrowly notched to the base itself.

Domene pectinatrix, n. sp. Fig. 30.

♂. Dark brown; head still darker, legs paler, mandibles black. Densely clothed with short ashen pubescence, and with a few hairs scattered about.

Head fairly large and ovate, hind angles strongly rounded, neck very small, antennary tubercles highly polished. Eyes rather small, prominent, and with coarse facets. Antennae rather stout, first joint cylindrical, about as long as second to fourth combined, the following ones to tenth subglobular. Prothorax about as long as head to mandibles, and distinctly narrower, hind angles strongly rounded, apical third triangularly narrowed to neck, with a very narrow median line, slightly elevated above the general surface near base, and with a very narrowly impressed line about middle. Elytra slightly wider than head and slightly longer than prothorax. Abdomen with first segment very small, and with a

median ridge on under-surface continued on to second, sixth rather shallowly notched at apex, and with a comb of short teeth there, seventh more deeply and triangularly notched. Legs moderately long; front femora stout, obtusely dentate, and with a comb; front tibiae triangularly dilated about base, the underside of the dilated part with three golden combs. Length, 9.5-10 mm.

♀. Differs in being slightly less robust, in having the head slightly smaller, antennae slightly shorter and thinner, and abdomen not notched and combless.

Hab.—Northern Territory: Oenpelli (P. Cahill). Type in National Museum.

There are nine combs on the male of this remarkable but dingy insect, four on each of the front legs, and one on the abdomen. In a good light and from certain directions three, composed of numerous, short, close-set golden teeth, may be seen on each front tibia, the combs parallel with each other, with the teeth of the first and second terminating just before the beginning of the second and third, attached to the third one there are also some long bristles; the front femora each have a narrow ridge extending from the base to about the apical third, where it abruptly terminates with the appearance of a fairly strong tooth, the edge of which curves around and is supplied with a somewhat similar comb to those on the tibiae; the comb on the abdomen of the type is lopsided, commencing gently on one side of the notch and ending abruptly on the other, the teeth, about twenty in number, from some directions appear of a beautiful golden-red, but from other directions of the same colour as the adjacent parts. On the right mandible, slightly in advance of the middle, there is a fairly large acute tooth, then a smaller acute one, and about the base two smaller obtuse ones; on the left mandible the basal tubercles are more acute and the others are not placed in sequence, but opposite each other, so that the teeth on the other side interlock with them when the mandibles are clenched. The punctures on the head are dense and rather small, but sharply defined, they are slightly larger in front, and denser at base than elsewhere, they are larger on its under-surface and sparser (but still dense) and more sharply defined than elsewhere; on the prothorax they are slightly smaller than on head, and about the base and median line still smaller, but sharply defined; on the elytra they are much as on base of head, on the abdomen (both surfaces) they are smaller and denser than elsewhere. The front part of the prosternum is finely transversely strigose. The remarkable structure of the front tibiae is much as in *Tripectenopus caecus* and *D. australiae,* from the latter it differs in being much larger, darker, punctures somewhat different, and prothorax narrower in proportion.

Domene microps, n. sp.

♀. Pale castaneous-brown; head slightly darker, legs slightly paler. Rather densely clothed with very short ashen pubescence.

Head between antennae and neck slightly longer than wide, sides almost parallel, hind angles slightly rounded, antennary tubercles shining. Eyes small and with coarse facets. Antennae rather stout, first joint slightly longer than second and third combined, second slightly longer than third, third to tenth subglobular and slightly transverse. Prothorax narrower than head and about as long, hind angles strongly rounded, apical third strongly narrowed to neck; with a narrow, shining, median line, itself with a very fine impressed line. Elytra slightly longer and distinctly wider than prothorax. Front femora stout and distinctly dentate, front tibiae with a triangular process at base, the process with three fine combs. Length, 3.25-3.5 mm.

Hab.—Northern Territory: Oenpelli (P. Cahill). Type, in National Museum; co-type, I. 15237, in South Australian Museum.

A subopaque dingy species, close to the preceding one on a greatly reduced scale, but apart from size, differs in being paler, head slightly longer, eyes smaller, and third joint of antennae as well as the following ones to tenth transverse. The comb on each front femur is rather looser than on that species, and the three on each front tibia are composed of slightly longer teeth, which on the first and second, touch, or slightly overlap, the base of the second and third. *D. australiae* and *D. torrensensis* are also much larger species, although much smaller than the preceding one. The punctures are as I have described them in the preceding species, but the insect being very much smaller, they are less clearly visible under a lens; the front part of the prosternum is also finely transversely strigose. The general appearance of the insect is strikingly close to *Scopaeus flavocastaneus* (of which both sexes are known), but the front legs are at once distinctive, the antennae are also stouter, with most of the joints transverse.

LATHROBIUM, Grav., Cat., p. 253.

ADELAIDAE, Blackb. N.S.W., S.A., C.A.
spenceri, Blackb. *(Dolicaon)*, Cat., p. 275.
ANGUSTICEPS, Fvl. Q., N.S.W., S.A., N.W.A., N.T., C.A.
var. *semifumatum*, Lea, Trans. Roy. Soc. S. Austr., 1916, p. 494.
AUSTRALICUM, Sol. N.S.W., S.A.
BASIPENNE, Lea, *l.c.*, p. 495. N.S.W., S.A., C.A.
BREVICEPS, Fvl. Q.
CRIBRUM, Fvl. Q., N.S.W., V., Tas., S.A.
var. *rufiventre*, Fvl.
EXIGUUM, Blackb. S.A.
FERREUM, Fvl. N.S.W.
GRATELLUM, Fvl. Q., N.S.W., V., S.A.
elongatulus, Macl. *(Dolicaon)*, Cat., p. 274.
LIMBATUM, Fvl. Q.
MICHAELSENI, Bernh. W.A.
MICROS, Fvl. Q., N.W.A.
MUTATOR, Fvl. Q., N.S.W., V., Tas., S.A., N.W.A., N.T.
var. *bipartitum*, Fvl.
NOTATICOLLE, Fvl. Q., W.A., N.W.A., N.T., C.A.
PENNATUM, Fvl. Q., N.W.A.
POLITULUM, Macl. Q.
VICTORIENSE, Blackb. V.

LATHROBIUM AUSTRALICUM, Sol.

Blackburn referred this species to *Dicax*,[20] but I think it should remain in *Lathrobium;* its head is almost exactly as in *L. ferreum*, not as in the species of *Dicax*.

LATHROBIUM GRATELLUM, Fvl.

Dolicaon elongatulus, Macl.

Specimens that were compared and agree with the type of *Dolicaon elongatulus*, agree perfectly with the description of *L. gratellum*, except that they are somewhat larger, 5-5.75 mm. Fauvel appeared to have doubts as to *gratellum* really being distinct, but thought the description of the prothorax of *elongatulus* did not fit it. Macleay described it as "considerably longer than the breadth"; Fauvel as "tertia parte longiore quam latiore." Although Macleay's name was published before Fauvel's, the latter's name must stand, as *elongatulum* was used by Kraatz for a species of *Lathrobium* in 1858.

LATHROBIUM ANGUSTICEPS, Fvl.

L. semifumatum, Lea, var.

Two specimens from Stewart River (Queensland), and one from Sydney, agree with the description of *angusticeps;* they are structurally identical with

[20] Blackburn, Trans. Roy. Soc. S. Aust., 1902, p. 20.

semifumatum, and probably that form should be regarded as one of the many varieties of the species. Those before me vary from having the abdomen, except the tips, and head black or dull brown, prothorax almost as dark as the head or much paler, and elytra entirely pale to having a more or less large portion of the base infuscated.

LATHROBIUM CRIBRUM, Fvl.

A specimen, from Melbourne, agrees well with the description of this species; another, from Tasmania, agrees also with the description, but differs from the Melbourne specimen in being more robust, and the elytra larger, with slightly sparser punctures.

var. *rufiventre,* Fvl. Specimens of this variety are before me from Melbourne and Sydney.

LATHROBIUM MICROS, Fvl.

Two specimens, from Stewart River, agree with the description of this species, except that they are somewhat smaller, 3.75-4 mm.

LATHROBIUM LIMBATUM, Fvl.

A specimen, from Whitton (New South Wales), is probably an immature one of this species; it differs from the description in being slightly smaller (3.5 mm.), the head only slightly infuscated (it is, however, distinctly darker than the prothorax) and sixth segment of abdomen scarcely infuscated at the base. The punctures of its prothorax and elytra are somewhat unusual, but exactly as in the description.

LATHROBIUM EXIGUUM, Blackb.

A specimen of this species, in Mr. Elston's collection, has the prothorax conspicuously reddish, in strong contrast with the head; it was taken, in moss, in company with normally coloured ones.

LATHROBIUM ADELAIDAE, Blackb., 1886.

Dolicaon spenceri, Blackb., 1896.

I have compared the type of *D. spenceri* (belonging to the National Museum) with a cotype and other specimens of *L. adelaidae,* and find them identical. The latter was referred with some slight doubts to *Lathrobium,* the former, without comment, to *Dolicaon.* It is close to several species referred by Fauvel to *Lathrobium.*

Lathrobium orthodoxum, n. sp. Figs. 17 and 18.

♂. Shining black; basal joint of antennae, palpi, and legs (knees slightly infuscated) flavous, rest of antennae and mandibles somewhat darker. With rather short, black, erect setae, becoming longer about tip of abdomen, elytra and abdomen, in addition, with sparse ashen pubescence.

Head subquadrate (except for rounding off of angles) behind antennae; with fairly numerous and sharply defined, but not large punctures, sparser between eyes and denser on hind angles than elsewhere. Eyes rather small (less than the length of basal joint of antennae). Mandibles stout. Antennae rather long, first joint as long as second and third combined, third slightly longer than second and distinctly longer than fourth, the others to tenth smaller and more or less globular, eleventh about as long as second. Prothorax longer than wide, apex almost the width of head, sides slightly decreasing, with a very feeble incurvature to base, punctures slightly larger and denser than on head, but leaving a shining median line, a few minute ones scattered about. Elytra parallel-sided, distinctly wider and about one-half longer than prothorax; with small subrugose punctures. Abdomen with penultimate and ante-penultimate

segments notched at apex on under-surface. Front femora stout and feebly dentate; four basal joints of front tarsi stout, and forming a briefly ovate pad, basal joint of hind tarsi very slightly longer than second. Length, 5-5.5 mm.

♀. Differs in having the antennae and legs somewhat shorter and abdomen not notched.

Hab.—South Australia: Murray River (R. F. Kemp); Victoria: Pianjil, in July (C. Oke); New South Wales: Mulwala (T. G. Sloane). Type, I. 12867.

The sides of the head for their greater extent are quite parallel; the teeth of the mandibles vary on each side, and also on the individuals; those figured are of the type male. The elytra on two specimens are not quite black, although at first glance they appear to be so; their punctures are small and not very sharply defined, but are usually lineate in arrangement. In general appearance like some of the dark forms of *L. mutator,* but head considerably longer and more parallel-sided, eyes smaller, antennae thinner, and not infuscated in middle, etc.

Lathrobium punctipenne, n. sp.

♂. Shining black; tarsi and palpi flavous, a few erect setae on upper-surface, becoming longer and more numerous at apex of abdomen, elytra and abdomen sparsely pubescent.

Head subquadrate between antennae and neck, angles rounded off; with numerous, but not crowded, sharply-defined punctures of moderate size. Mandibles strong, with several acute teeth. Antennae with first joint as long as second and third combined, third slightly longer than second and distinctly longer than fourth, fifth-tenth subglobular. Prothorax slightly longer than wide, widest at apex, where the width is about equal to that of head, sides feebly decreasing to base, hind angles strongly rounded; an almost regular row of punctures on each side of the shining median line, towards sides with irregular ones. Elytra about one-fourth wider than prothorax and one-half longer, parallel-sided except that the angles are rounded off; with distinct rows of punctures. Subapical segment of abdomen triangularly notched at middle of apex on under-surface, the preceding segment depressed there. Front tarsi with four basal joints dilated to form a circular pad, basal joint of hind tarsi slightly longer than second. Length, 4.75-5 mm.

♀. Differs in having the head slightly smaller, the legs slightly shorter, and the abdomen not notched.

Hab.—Western Australia: Swan and Vasse Rivers (A. M. Lea).

A highly-polished black species, like very small and thin *P. australicum.* On the type male the antennae and legs (except tarsi) are almost as dark as the other parts, but on the female they are of a dingy brown. The punctures on the elytra are about as large as those on the prothorax, but being somewhat rugose they are much less sharply defined.

Lathrobium tropicum, n. sp.

♂. Black; legs and part of under-surface of abdomen of a dingy testaceous-brown, antennae darker, but becoming paler towards apex, labial palpi still paler. Length, 5 mm.

Hab.—Northern Territory: Oenpelli (P. Cahill). Type (unique), in National Museum.

The sculpture is almost exactly as described in the preceding species, and the general appearance is much the same, but it differs in having larger eyes (the distance from each eye to the neck is but little more than the length of an eye, on that species it is twice the length of an eye), antennae distinctly longer and thinner, punctures on top of head sparser, prothorax slightly wider, legs paler, and clothing somewhat sparser. From *L. orthodoxum* it differs in having

larger eyes, antennae longer and thinner, and in the prothoracic punctures; on that species the punctures on the sides are irregular up to those on each side of the median line; on the present species (and to a less extent on *L. punctipenne)* the punctures on the sides are also irregular but not up to the median line, so that from certain directions there appear to be three shining lines separated by rows of punctures.

Lathrobium angustulum, n. sp.

♀. Of a dingy piceous-brown; head almost black, antennae, palpi, and legs flavous. With fairly numerous dark setae, the abdomen rather densely pubescent, the elytra more sparsely so.

Head rather elongate; with numerous sharply-defined but not very large punctures, becoming crowded on hind angles. Mandibles strong, each with a large median tooth, and some smaller ones towards base. Antennae with first joint as long as second and third combined, third distinctly longer than second, and almost as long as fourth and fifth combined, the following ones to tenth gradually becoming subglobular. Prothorax distinctly longer than wide, apex slightly narrower than head and not much wider than base, sides gently incurved to middle; with rather dense sharply-defined punctures, but leaving a rather narrow, shining, median line. Elytra distinctly longer than prothorax and slightly wider than its widest part, parallel-sided; punctures somewhat smaller and less sharply defined than those on prothorax. Front femora stout, with a small but acute tooth; front tibiae rather stout, feebly notched near middle; four basal joints of front tarsi dilated to form a suboval pad; basal joints of hind tarsi short. Length, 6 mm.

Hab.—New South Wales: Tamworth (A. M. Lea). Unique.

An unusually narrow species, allied to *L. adelaidae,* but even thinner, darker, antennae longer, and elytral punctures slightly different. The prothorax is not as dark as the elytra, but is not conspicuously reddish, the two apical segments of abdomen, and the tip of the preceding one, are paler that the other segments. The main portion of the head is slightly longer than wide, but from tip of the extended mandibles to the base of the neck the head is almost twice as long as wide. The elytral punctures are not regularly disposed, but from some directions they appear in places to be feebly seriate in arrangement. The abdomen of the type has most of the segments with the membranous part of each showing, so that it appears to be in alternating pale and dark bands, but the pale ones would be concealed on most specimens.

Lathrobium mediopallidum, n. sp.

♂. Pale castaneous; antennae, palpi, and legs paler, head and most of abdomen infuscated. Abdomen with dense and very short pubescence.

Head subquadrate between mandibles and neck; with numerous sharply defined but not very large punctures. Mandibles stout and strongly dentate. Antennae with basal joint as long as second and third combined, third slightly longer than second and conspicuously longer than fourth. Prothorax distinctly longer than wide, widest in front, where the width is slightly less than that of head, sides gently incurved to middle; punctures as on head, except that they are absent from a narrow, shining median line. Elytra parallel-sided, distinctly wider and much longer than prothorax; and with somewhat smaller and denser punctures. Apparent fifth segment of abdomen depressed in middle of apex on under-surface, the sixth triangularly notched there. Front femora stout and with a rather small tooth; front tibiae slightly notched before middle, apical portion stout; four basal joints of front tarsi dilated to form a suboval pad, basal joints of hind tarsi small. Length, 4.25 mm.

Hab.—Queensland: Stewart River (W. D. Dodd). Type (unique), I. 12865.

Allied to *L. micros*, but, apart from colour, differs in having the head, prothorax, and elytra all with different punctures. The colours are apparently as in *L. limbatum*, but differs from description and from a specimen I have, with some doubt, identified as belonging to that species, in having the median line of the prothorax narrower and shorter than is usual in the genus, elytra with punctures not at all seriate in arrangement, and the apical third not *"fere laevi."* The abdomen is the only part of the upper-surface that is densely clothed, the head and elytra are sparsely pubescent, and the setae are nowhere numerous.

Lathrobium pulchellum, n. sp.

♀. Shining black; prothorax and tips of elytra bright castaneo-flavous, antennae, palpi, and legs flavous, apical portion of abdomen dull red. Upper-surface with sparse dark setae, abdomen rather densely pubescent.

Head between antennae and neck slightly transverse; with moderately large and sharply-defined punctures, very sparse in middle, but numerous on hind angles. Mandibles stout and strongly dentate. Antennae with first joint almost as long as second to fourth combined, third somewhat thinner than second, and about as long, distinctly longer than fourth, the others to tenth more or less globular. Prothorax subquadrate, angles slightly rounded off; with a somewhat irregular row of distinct punctures on each side of middle, sides with fairly numerous punctures, in places with a lineate arrangement. Elytra almost parallel-sided, slightly wider than prothorax, and about one-half longer; punctures rather small and not very sharply defined, but in more or less distinct rows. Front femora stout and obtusely dentate, four basal joints of front tarsi dilated to form a rather small pad, basal joint of hind tarsi slightly longer than second. Length, 4.5 mm.

Hab.—Northern Queensland (Blackburn's collection). Type (unique), I. 12399.

A pretty little species, the type of which was identified by Blackburn as belonging to *Dolicaon quadraticollis*, and except in size, it agrees well with the description of that species; but on comparison with the type it was seen to be very different. In general appearance the type of that species is like a very wide *Lathrobium bipartitum*, about the same length and colour, but about one-half wider; the present species differs from *bipartitum* in being much smaller, decidedly narrower, elytra flatter, with smaller punctures, less of apex pale, and antennae much thinner. The pale portion of the elytra at the suture scarcely occupies one-sixth of their length, but is triangularly dilated to occupy about one-third of each side. At first glance the prothorax appears to be quite square, but on close examination the apex is seen to be slightly wider than the base. The eighth to tenth joints of antennae are each very slightly longer than wide.

Lathrobium transversiceps, n. sp.

♀. Shining reddish-castaneous; legs (except knees, which are slightly infuscated) and palpi paler, most of head deeply infuscated, abdomen slightly infuscated, almost the whole of the three apical segments and the tips of the others paler. With rather short and not very dense setae, the abdomen with very short ashen pubescence.

Head between antennae and neck rather strongly transverse; with fairly large sharply-defined punctures, rather sparse, but becoming crowded on hind angles. Mandibles stout and acutely dentate. Antennae rather long, basal joint as long as second and third combined, third much longer than second or fourth, the others to tenth subpyriform and slightly decreasing in length, but

none transverse, eleventh longer. Prothorax subquadrate, apex slightly wider than base, sides feebly incurved at middle, hind angles strongly rounded; an irregular subgeminate row of punctures on each side of middle, and fairly numerous ones on sides. Elytra parallel-sided, distinctly longer and wider than prothorax, but scarcely one-fifth longer than wide; with somewhat irregular rows of rather small punctures, becoming smaller and less regular posteriorly. Abdomen with dense and small punctures. Front femora stout and slightly dentate, four basal joints of front tarsi strongly dilated to form a subovate pad, basal joint of hind tarsi slightly longer than second. Length, 8 mm.

Hab.—North-western Australia: Behn River (R. Helms). Unique.

In general appearance like small and narrow *L. ferreum,* but elytral punctures very different; very different in colour from *L. fulvipenne,* and base of head, especially at the angles, opaque and with crowded punctures. It is the size and much the colour of *Dolicaon paricolor,* but the head is darker and hind tarsi different. It is apparently allied to *L. pennatum,* as the whole base of the head, in advance of the neck, at first glance appears to be truncated, on close examination, however, the hind angles are seen to be slightly rounded off, but even the slight rounding is partially obscured by clothing. The description of *pennatum* is but little more than a comparison with the ex-Australian *L. fulvipenne;* there are several English specimens of that species before me, and they are black, with the antennae, palpi, legs, and elytra reddish, the latter on one specimen slightly infuscated at the base; in his second table of the species of *Lathrobium,*[21] Fauvel notes *pennatum* as having the head, prothorax, and abdomen black, the elytra reddish, with the base blackish. The punctures on the prothorax are slightly larger than those on the head, in some parts they appear to form irregular rows in addition to those on each side of the middle, but about the apex, except in the middle, they are all irregular.

Lathrobium abdominale, n. sp. Fig. 19.

♂. Black or blackish; mandibles, antennae, and legs of a dingy reddish-brown, tarsi and palpi paler. Rather densely clothed with short ashen pubescence, and with a few dark hairs scattered about.

Head behind antennae subquadrate, but angles rounded off; with crowded and small but sharply-defined punctures; under-surface shagreened. Mandibles stout. Antennae moderately long, first joint slightly longer than second and third combined, third slightly longer than second, and rather more noticeably longer than fourth, the others to tenth subglobular. Prothorax slightly longer than wide, slightly narrower than head, base almost as wide as apex, sides gently incurved to middle; punctures as on head, but leaving a narrow, shining, median line. Elytra parallel-sided, slightly wider than head and considerably longer than prothorax; punctures slightly smaller and not quite as dense as on prothorax. Under-surface of abdomen with a large excavation common to three segments: a small portion at apex of apparent fourth, occupying the apparent fifth for almost its entire width, and most of the apparent sixth; subapical segment deeply notched. Front femora stout, obtusely dentate; front tibiae stout; four basal joints of front tarsi dilated to form a subcircular pad; middle and hind femora somewhat curved. Length, 5.5-6.5 mm.

♀. Differs in being less robust, antennae and legs shorter, femora thinner, the middle and hind ones scarcely curved, and under-surface of abdomen simple.

Hab.—South Australia: Lucindale (B. A. Feuerheerdt). Type, I. 12648.

Close to *L. cribrum,* but differs in being more shining, elytra differently coloured and with somewhat different punctures; the abdomen of the male is very similar, the excavation varies somewhat in extent and depth, but is always

[21] Fauvel, Ann. Mus. Civ. Gen., 1878, p. 521.

conspicuous. On several specimens the elytra are entirely black, but on most of them a fairly wide sutural space from the base to the apex is obscurely reddish, but the red is much more distinct from some directions than from others. On some specimens the antennae (except the basal joint) are almost black. The teeth of the mandibles vary on each side, and also on each individual, the median tooth varies considerably in length (I broke those of several in forcing out the mandibles for examination). The apical joint of the maxillary palpi is rather short and very thin. The first joint of the hind tarsi, from most directions appears to be slightly shorter than the second, but when its whole extent is visible it is seen to be of the same length. The front tibiae of the male are notched about the middle, and there is a comb with many small teeth there, but the clothing is so dense about it that it is difficult to see even the notch from most directions.

Lathrobium apiciflavum, n. sp.

♂. Black; outer apical angles of elytra, labial palpi, and legs flavous. Abdomen and part of head with very short dense pubescence, the former with long hairs about apex, rest of upper-surface shining and with sparse setae.

Head briefly ovate, hind angles strongly rounded; with crowded and small punctures; neck small. Mandibles stout and strongly dentate. Antennae long, passing base of prothorax, all the joints much longer than wide, first about as long as second and third combined, third slightly longer than second and distinctly longer than fourth. Prothorax slightly longer than wide, sides feebly, the angles strongly, rounded, apex scarcely wider than base; with dense and sharply-defined punctures, except on a narrow, shining, median line. Elytra conspicuously longer and wider than prothorax; with somewhat smaller and denser punctures. Abdomen with very dense and minute punctures, apparent fifth segment with a subtriangular notch at middle of apex on under-surface, and a shallower one towards each side. Front femora stout and acutely dentate; front tibiae thin and ridged near base, notched about middle and stout towards apex; four basal joints of front tarsi dilated to form a subovate pad, basal joint of hind tarsi slightly shorter than second. Length, 5-5.5 mm.

♀. Differs in having somewhat shorter and thinner antennae and legs, slightly smaller head, and abdomen not notched.

Hab.—New South Wales: Windsor (H. J. Carter), Narromine (Dr. E. W. Ferguson). Type, I. 12649.

Readily distinguished from all other Australian species by the pale outer apical angles of elytra; it is nearer *L. cribrum* and *L. abdominale* than to the others. Although there are differences in the antennae, tarsi, prothorax, etc., the figure of *Dibelonetes laticeps*[22] will give a good general idea of this insect. The basal joint of antennae, and one or two of the apical ones, are of a dingy flavous, the others are more or less deeply infuscated; the under-surface is not as dark as the upper. The apical joint of the maxillary palpi is fairly long and very thin (almost setiform), much as it is in many species of *Heterothops*. The punctures on the prothorax are slightly larger than those on the elytra, and much more sharply defined than those on the head.

SUNIOPSIS, Fvl., Cat., p. 271.

POLITUS, Lea. W.A. SINGULARIS, Fvl. W.A.

Suniopsis cribripennis, n. sp.

♀. Shining castaneous; part of abdomen infuscated. Antennae, palpi, and legs flavous, basal half of tibiae and of femora infuscated. Labrum and

[22] Sharp, Biol. Cent. Amer., i., (Part 2), 1886, p. 603.

sides of elytra with a few long hairs, more numerous on sides of abdomen and on anal styles, rest of abdomen moderately clothed.

Head oblong-ovate, with a rather large neck; with large and fairly numerous but irregularly distributed punctures; under-surface highly polished, with a few strong punctures on sides. Mandibles long and sharp, with a strong acute tooth about one-third from base, base with two very minute teeth. Eyes large, invisible from below. Antennae thin, none of the joints transverse. Prothorax distinctly longer than wide, widest near apex, where the width is about equal to that of head, and decidedly more than that of base, sides gently rounded, all angles strongly rounded off; with an irregular row of large punctures on each side of the middle, and more irregular ones on sides, a few minute punctures scattered about. Elytra small, much shorter and slightly narrower than prothorax, base strongly, the sides slightly rounded; with coarse crowded punctures. Abdomen slightly dilated posteriorly, the sixth segment largest of all and slightly wider than head, with dense punctures, becoming smaller posteriorly. Length, 7.5 mm.

Hab.—Victoria: Dividing Range (Blackburn's collection). Type (unique), I. 12622.

The front tarsi are not very thin, and are distinctly shorter and wider than the others. In general appearance the species is close to *Hyperomma pictipes,* but is referred to *Suniopsis* on account of the maxillary palpi, of these the third joint is large, elliptic-ovate, and with the fourth quite concealed in its apex. There are two ball-like appendages to the mentum, but the type being unique I have not dissected out the mentum to examine its paraglossae. The mandibles are almost exactly as in *H. bryophilum,* and practically the only feature generically distinguishing it from that species is the apical joint of the maxillary palpi; the fact that this species has the curious ball-like appendages as in most, if not all, species of *Hyperomma,* would appear to indicate that the two genera should be combined; if this course should be decided upon, *Suniopsis* has page priority.

Suniopsis picticornis, n. sp.

♂. Black and highly polished; mouth parts, two basal joints of maxillary palpi, and mandibles reddish, two basal joints of antennae reddish, the apical one almost flavous, the intervening ones more or less deeply infuscated; femora pale (almost watery) flavous, tibiae and tarsi infuscated. Head, sides of prothorax, and of elytra with long straggling hairs, becoming numerous on sides of abdomen and on anal cerci, rest of abdomen densely clothed.

Head oblong-ovate, with a rather large neck; with large and numerous but irregularly distributed punctures, and a few minute ones; under-surface polished and with scattered punctures. Mentum triangularly notched in middle, each side margining the notch slightly produced. Eyes of moderate size, concealed from below. Mandibles rather long and acute, a small but distinct tooth near base. Antennae rather short, joints after the third feebly decreasing in length, the ninth and tenth scarcely, if at all, longer than wide, eleventh somewhat longer. Prothorax distinctly longer than wide, apex slightly wider than head, and distinctly, but not much, wider than base, sides gently rounded, all angles feebly rounded off; an irregular semidouble row of moderately large punctures on each side of middle and irregular ones on sides, a few minute punctures scattered about. Elytra very small, much shorter than prothorax, and slightly narrower at widest; with fairly dense and rather large punctures. Abdomen almost parallel-sided to near apex, sixth segment largest of all and slightly wider than prothorax; with dense punctures, subapical segment with a deep triangular notch on under-surface, with a fine margining membrane. Legs not very long, front tarsi thin, but somewhat wider and shorter than the others. Length, 8 mm.

Hab.—South Australia: Myponga, in moss (A. H. Elston). Type (unique), I. 12858.

The base and apex of prothorax and tip of abdomen are obscurely diluted with red. From some directions some of the elytral punctures appear to be lineate in arrangement. At first glance the type appears very close to *Hyperomma nigrum,* but the large joint of the maxillary palpi is dark, the fourth joint is apparently missing, and the femora are very pale throughout. Under the microscope the third joint of the maxillary palpi is seen to be large, its tip truncated, with the fourth, on the right side, completely buried in its tip, and the one on the left side with its tip just showing. In manipulating the mouth parts for examination some slight force was used, and this may possibly have pressed out the tip of the fourth joint; quite possibly, however, the fourth may be capable of retraction; if this should be the case it removes the main distinction between *Suniopsis* and *Hyperomma.*

Hyperomma, Fvl., Cat., p. 269.

An interesting genus, all the known species of which are apterous, and have a small but distinct apical joint to the maxillary palpi, apparently the only distinguishing feature from *Suniopsis,* in which the true fourth joint is buried within the tip of the third. Fauvel recorded *Hyperomma* as having the front tarsi dilated, and *Suniopsis* as having them thin, but in several species of *Hyperomma* they are no wider than in the known species of *Suniopsis.* The species of both genera, except a doubtful one referred to *Hyperomma,* have eyes on top of the head, so as to be invisible from below. Following is a table of the Australian species:—

A. Body parts, except tip of abdomen, entirely black.
  a. Head and prothorax finely shagreened .. .. *globuliferum*
  aa. Head and prothorax not shagreened.
    b. Legs variegated .. .. *nigrum*
    bb. Legs entirely red.
      c. Front tarsi strongly dilated .. .. *labrale*
      cc. Front tarsi rather thin.
        d. Prothorax conspicuously dilated to near apex .. .. .. *cribratum*
        dd. Prothorax scarcely wider near apex than near base .. .. *cylindricum*
AA. Body parts only partly, or not at all, black.
  B. Eyes minute and lateral .. .. *microps*
  BB. Eyes large and on top of head.
    C. Head and prothorax finely shagreened .. .. *megacephalum*
    CC. Head and prothorax not shagreened.
      D. Length less than 5 mm. .. .. *inquilinum*
      DD. Length more than 6 mm.
        E. Legs variegated .. .. *pictipes*
        EE. Legs not variegated.
          F. Upper-surface of head obliquely and longitudinally strigose *abnorme*
          FF. Upper-surface of head not strigose.
            G. Prothorax and elytra uniformly coloured .. .. .. *lacertinum*
            GG. Prothorax and elytra not uniformly coloured .. .. *bryophilum*

ABNORME, Blackb. V., Tas. NIGRUM, Lea. W.A.
LACERTINUM, Fvl. S.A., W.A. PICTIPES, Lea. Tas.

Hyperomma lacertinum, Fvl.

A female, from St. Francis Island (South Australia), probably belongs to this species, but differs from the description in being smaller, 11 mm.; the type was also described as "obscure rubrum, abdomine piceo"; the island specimen is of a rather bright reddish-castaneous, with the abdomen blackish, except that the apical segment and the tips of the others are obscurely reddish.

HYPEROMMA ABNORME, Blackb.

A specimen, from Tasmania, probably belongs to this species, but differs from a cotype in having the row of punctures on each side of the middle of the prothorax semidouble, and the head nonstriated (this, however, was noted as a sexual feature); in general appearance it is very close to the preceding species, but the head, prothorax, elytra, and abdomen are of an almost uniform shade of colour throughout, and the elytral punctures sparser and less sharply defined, although decidedly larger.

Hyperomma globuliferum, n. sp. Figs. 20 and 31.

♂. Black; mouth parts, antennae (most of the joints partly infuscated), palpi and legs reddish, anal styles darker. Head, sides of prothorax, and of elytra with straggling dark hairs, becoming numerous on sides of abdomen posteriorly, rest of abdomen (both surfaces) with short and dense setae.

Head subquadrate; with rather dense and small, but fairly sharp punctures, and with much larger ones irregularly scattered, but four between bases of antennae; under-surface transversely strigose, but at sides shagreened, a few strong punctures scattered about. Mandibles long, thin, and simple, except for the swelling at inner base. Antennae thin, third joint about one-third shorter than first, about one-third longer than fourth, and twice the length of second. Maxillary palpi with third joint long, the fourth short and briefly conical. Prothorax distinctly longer than wide, widest near apex, where it is as wide as base of head and about one-third wider than its own base, all angles rounded off; with an irregular row of distinct punctures on each side of middle and with minute ones scattered about; towards each side with another irregular row of punctures, then punctures about as large as the small ones on head, mixed with a few other larger ones; front of prosternum strongly transversely strigose. Elytra very short, scarcely more than half the length of prothorax, slightly dilated to apex, where the width is less than that of prothorax; with crowded and rather coarse punctures, with a few somewhat larger ones scattered about, an irregular depression near each side. Abdomen almost parallel-sided to near apex; with crowded punctures; under-surface of sixth segment with a deep notch, margined by a thin membrane. Front tarsi with basal joints feebly dilated. Length, 12-16 mm.

♀. Differs in having the head somewhat wider, abdomen more dilated posteriorly, and the sixth segment not notched.

Hab.—Victoria: Dandenong Ranges (Blackburn's collection), Emerald (H. H. D. Griffith from E. Jarvis), Mount Macedon (H. W. Davey), Gippsland (Dr. E. W. Ferguson), Belgrave in January, October, November (F. E. Wilson), and in February (C. Oke), Ferntree Gully in July (Oke); New South Wales: Nowra (Ferguson). Type, I. 12401.

About the size and colour of *Dicax cephalotes* and *Scymbalium duplopunctatum*, but apterous, mandibles simple, etc. The head and prothorax are very finely shagreened, and although hardly opaque are less shining than the elytra; the eyes are large and invisible from below. The hairs about the mouth are longer and paler than those on the other parts of the head. The punctures in the prothoracic rows vary in number from twelve to eighteen, they are slightly smaller than the large ones on head, and the minute ones are also smaller than those on head, except at the sides, where they are about as large.

This species has two curious processes attached to the mentum; they appear like two pale almost circular balls, they are of fairly large size and quite distinct from below, or from in front, when the mandibles are open; although from most directions they appear to be globular, from an oblique direction each is seen to have a small circular concavity. Under a compound power they are seen to

be separated by the median projection of the mentum and to be inwards of the paraglossae (on this species the paraglossae are large, comb-shaped, with numerous long close-set teeth), the basal half of the basal joint of the palpi appears as if squeezed thin by them. They are not sexual, and are present, but smaller, on other species of the genus. On first seeing them I was under the impression that they were beetle mites in an unusual position.

Two badly-damaged males from Kangaroo Island (J. G. O. Tepper) apparently belong to this species, but differ from the types in being smaller and thinner, head somewhat longer, and its under-surface, as also that of the prosternum, less conspicuously transversely strigose.

Hyperomma megacephalum, n. sp.

♀. Dull castaneous, some parts slightly darker than others; antennae, palpi, and legs paler (castaneo-flavous). Head, sides of prothorax and of elytra with sparse straggling hairs, becoming denser on abdomen, especially about apex, both surfaces of abdomen with dense, short, depressed clothing.

Head subquadrate; with numerous small punctures and with larger ones scattered about and becoming crowded on sides; under-surface transversely strigose. Eyes large and invisible from below. Mandibles long and thin. Antennae thin, third joint one-third shorter than first, one-third longer than fourth, and twice the length of second. Subapical joint of maxillary palpi large, the apical one small and briefly conical. Prothorax longer than wide, apex scarcely as wide as head, obliquely narrowed to base, all angles rounded off; with minute punctures becoming larger on sides, on each side of middle with an irregular row of large punctures, each side with two still more irregular rows, becoming conjoined at base and apex. Elytra slightly shorter than head and much shorter than prothorax, slightly dilated to apex, where the width is about equal to that of the middle of the prothorax; with rather large crowded punctures. Abdomen dilated to near apex, fifth segment largest of all and slightly wider than head. Basal joints of front tarsi feebly dilated. Length, 12.5 mm.

Hab.—Victoria: Dandenong Ranges (C. French). Unique.

The head with the mandibles clenched is (except for the neck and for the rounding off of the angles) an almost perfect square; the mandibles have not been forced open, but they appear to be simple. The head and prothorax are very finely shagreened, and in consequence less shining than the elytra; there are seven large punctures on the front of the clypeus, but they are irregularly placed, of the rows of punctures on each side of the middle of the prothorax there are 17 in one, and 19 in the other; on each elytron there are three irregular rows of punctures, larger than the others, but they are not very distinct at the first glance. The head is larger and abdomen more dilated posteriorly than in any other known species of the genus; the curious ball-like appendages to the mentum are quite as distinct as on *H. globuliferum*.

Hyperomma cylindricum, n. sp. Fig. 21.

♂. Black; mouth parts, antennae (most of the joints partly infuscated), palpi, legs, and tip of abdomen red. Head, sides of prothorax, and of elytra with long straggling hairs, becoming numerous on abdomen, especially at apex; abdomen, both surfaces, with rather dense depressed clothing.

Head oblong-elliptic; with dense and small sharply-defined punctures, with many larger ones scattered about, a rather narrow, shining, and almost impunctate space between eyes; under-surface strongly shagreened, becoming longitudinally striated near base; with large punctures scattered about, but an almost impunctate, narrow, shining, median triangle. Mandibles long, thin, and, except for the inner enlargement at base simple. Antennae rather long and

thin, none of the joints transverse. Subapical joint of maxillary palpi large, the apical one small and briefly conical. Prothorax oblong-elliptic, almost twice as long as wide, base not much wider than apex, all angles rounded off; with fairly numerous minute but sharply-defined punctures, becoming slightly larger on sides; each side of middle with an irregular, in parts semidouble row of large punctures, the sides also with large punctures, front portion of prosternum evenly transversely strigose. Elytra about the length of head (excluding mandibles) and much shorter than prothorax; with dense and rather coarse punctures, and with irregular rows of larger ones. Abdomen slightly dilated to near apex, sixth segment largest of all; with dense punctures becoming sparser about apex; under-surface of subapical segment with a deep triangular notch, margined by a thin membrane. Front tarsi thin. Length, 10.5-14 mm.

♀. Differs in having the abdomen somewhat wider with the subapical segment not notched.

Hab.—New South Wales: Sydney (Dr. E. W. Ferguson and A. M. Lea), Mount Kosciusko (H. J. Carter), Blue Mountains (Ferguson); Victoria: Warburton in April (F. E. Wilson), Mount Macedon (H. W. Davey), Bellgrave in January and Ferntree Gully in July (C. Oke), Alps, No. 1633 (Ejnar Fischer), Emerald (H. H. D. Griffith from E. Jarvis). Type, I. 15233.

A long species almost cylindrical throughout, except for short indentations, the greatest width of the head, prothorax, and elytra are practically equal, and very little less than the greatest width of the abdomen. The tips of the antennae are almost flavous, the tip of the sixth segment, the whole of the seventh, and the anal styles are conspicuously reddish on some specimens, but feebly so on others. The upper-surface of the head, and the prothorax, are not at all shagreened, consequently they are as highly polished as the elytra. The eyes are large, but do not alter the curvature of the sides, and are invisible from below; the inner enlargement at the base of each mandible has a feeble projection, but it is quite invisible unless the mandibles are widely open, and even then it is invisible from some directions. The species differs from *H. globuliferum* in the thinner and more cylindrical body, longer head with different sculpture on both surfaces, base of mandibles, prothorax scarcely wider at apex than base, no part of upper-surface shagreened, etc., there are globular appendages to the mentum, but they are smaller than on that species. In general appearance it strongly resembles *Scymbalium duplopunctatum,* but the antennae, palpi, mentum, punctures, and apterous body are all different. The front tarsi are thin, as in *Suniopsis,* but as the maxillary palpi are exactly as on several species of *Hyperomma,* it was referred to the latter genus. There is a specimen of the species in the Australian Museum (K. 21093, from Mount Kosciusko).

Hyperomma labrale, n. sp. Fig. 22.

♀. Black; mouth parts, antennae (most of the joints infuscated), palpi, legs, and tip of abdomen red.

Head subquadrate; with fairly numerous, small, but sharply-defined punctures, and some large ones irregularly scattered; under-surface opaque and finely shagreened; with large scattered punctures, smooth and shining between the gular sutures, and striated about base. Mandibles long, apical half thin, then dilated with a blade-like edge to near base, which is finely dentate. Antennae thin, none of the joints transverse. Maxillary palpi with subapical joint long, the apical one small and briefly conical. Prothorax slightly longer than wide, scarcely wider than head, very feebly diminishing in width to base, all angles rounded off; with rather sparse and minute but sharply-defined punctures, becoming larger and denser on sides, each side of middle with an irregular row (thirteen on one side, seventeen on the other) of large punctures, the sides

also with numerous large ones; front of prosternum transversely strigose. Elytra slightly narrower than prothorax and much shorter. Abdomen somewhat dilated posteriorly; with crowded punctures and finely shagreened. Femora stout, front ones stouter than the others and feebly dentate; four basal joints of front tarsi strongly dilated. Length, 12 mm.

Hab.—New South Wales: Illawarra (H. J. Carter). Type (unique), I. 12601.

The head, except for some long hairs about the muzzle, prothorax, and elytra are very sparsely clothed, but this may be due to abrasion. The shape of the mandibles and strongly dilated front tarsi are sufficient to distinguish the species from all other black-bodied ones of the genus. The labrum is also peculiar, owing to its punctures being unusually large its front appears multi-sinuate, instead of evenly bilobed. A second female (received by Mr. Griffith from Mr. Carter) has damaged antennae, but is otherwise perfect, and it has two ball-like appendages in the mouth as in *H. globuliferum.*

Hyperomma cribratum, n. sp.

♀. Black and highly polished, mouth parts, antennae (most of the joints deeply infuscated except at base), palpi and legs red, tip of abdomen obscurely reddish. Head with a few straggling black hairs, still fewer on sides of prothorax and elytra, abdomen densely clothed, the sides and tip with long hairs.

Head (excluding neck) slightly wider than long, base slightly wider than elsewhere; with dense and rather small sharply-defined punctures, and large ones scattered about; under-surface strongly transversely strigose, and with large scattered punctures, gular sutures forming the sides of a smooth triangle from mentum to middle, but single from there to neck. Labrum larger than usual and deeply notched. Eyes large, invisible from below. Mandibles long, thin, and simple, except for a minute tooth at inner base. Antennae thin, none of the joints transverse. Subapical joint of maxillary palpi large, the apical one small and briefly conical. Prothorax distinctly longer than wide, widest near apex, where the width is slightly more than that of head, sides obliquely decreasing to base, all angles rounded off; with rather dense and small but sharply-defined punctures, becoming denser and larger on sides, each side of middle with an irregular (semidouble) row of large punctures, the sides also with large ones. Elytra small, shorter than head, much shorter than prothorax, and not much wider than its base, almost parallel-sided; with fairly coarse crowded punctures, and irregular rows of larger ones. Abdomen feebly dilated posteriorly, with crowded punctures. Front femora stout and rather obtusely dentate; front tarsi thin. Length, 16 mm.

Hab.—Western Australia: Swan River (J. Clark). Type (unique), I. 15231.

The head is decidedly shorter than in *H. cylindricum,* the sculpture of its under-surface is very different, the mandibles are longer, although much the same at base, the prothorax is conspicuously dilated in front and its punctures are much more conspicuous. The shape of the prothorax is much as in *H. globuliferum,* but it is not shagreened, and its punctures are denser and more conspicuous than on that species; the globular appendages to the mentum are smaller and less conspicuous.

Hyperomma bryophilum, n. sp. Fig. 23.

♂. Bright castaneous; middle of head and of prothorax, elytra, sixth segment of abdomen, and base of some of the others more or less conspicuously infuscated, mouth parts, antennae (some of the median joints infuscated), palpi, and legs castaneo-flavous. Head, sides of prothorax and of elytra, sides and

tip of abdomen with long and rather sparse hairs, rest of abdomen with (for the genus) rather sparse clothing.

Head oblong-ovate; with large scattered punctures and a few minute ones; under-surface with a few scattered punctures. Labrum large, deeply notched in middle, concealing most of mandibles when clenched. Eyes large, invisible from below. Mandibles long and acute, with an acute tooth near middle and two minute ones at base. Antennae thin, none of the joints transverse, first as long as second and third combined, third very little longer than fourth. Subapical joint of maxillary palpi large, the apical one small and briefly conical. Prothorax distinctly longer than wide, widest near apex, thence obliquely diminishing in width to near base, all angles rounded off; with an irregular row of large punctures on each side of middle, and some large ones on sides, a few minute punctures scattered about. Elytra small, shorter than head, and much shorter than prothorax, base rounded, sides slightly dilated posteriorly; with large and fairly dense punctures. Abdomen large, slightly dilated posteriorly, sixth segment largest of all, under-surface of seventh deeply notched, anal styles long; with numerous but not crowded punctures. Femora rather stout, four basal joints of front tarsi rather strongly inflated. Length, 7.5-8.5 mm.

♀. Differs in having the head somewhat smaller, abdomen not notched, and front tarsi less strongly (although noticeably) inflated.

Hab.—Tasmania: Waratah, in moss (A. M. Lea).

The infuscated parts of the head and prothorax are almost circular, they are very distinct on some specimens, but scarcely traceable on others; from three to five of the apical joints of antennae are flavous. The fairly wide front tarsi and distinct fourth joint of maxillary palpi would seem to refer the species to *Hyperomma,* but the mandibles are armed, as in *Suniopsis.* It is allied to *H. pictipes,* from which it differs in being paler, with the legs uniformly coloured (there are five specimens of the present species before me, and two of *pictipes).* I have not dissected out the mentum, but there appear to be two small globular processes at its apex.

Hyperomma inquilinum, n. sp.

♂. Pale castaneous; elytra and most of abdomen infuscated; mouth parts, two basal joints of antennae (the others missing), palpi, and legs flavous. Upper-surface with sparse hairs at sides, the abdomen moderately densely clothed.

Head oblong-ovate; with fairly large scattered punctures, and some minute ones; under-surface shining and with scattered punctures. Labrum deeply notched in middle. Mandibles long, thin, curved, and simple. Eyes rather large, invisible from below. Subapical joint of maxillary palpi large and stout, the apical one small and briefly conical. Prothorax distinctly longer than wide, widest near apex, where the width is slightly more than that of head, sides gently rounded and decreasing to base; a row of large punctures on each side of middle, and others on sides, minute ones scattered about. Elytra small, about two-thirds the length of prothorax and decidedly narrower, base strongly rounded, the sides moderately so; each with four irregular rows of large punctures. Abdomen about half the total length, sides feebly increasing in width to sixth segment, which is the largest of all; with fairly dense punctures, except at tips of segments; under-surface of seventh segment with an equilaterally triangular notch at apex. Femora stout, front tarsi moderately wide. Length, 3.5 mm.

Hab.—Western Australia: Swan River, from a nest of *Iridomyrmex conifer* (J. Clark). Type (unique), I. 12626.

The smallest known species of the genus, but apterous and with quite typical mandibles, eyes, and palpi; the front of the mentum is obscured on the

type. The pale parts of the abdomen are the seventh segment, apical half and sides of the sixth, and sides and tips of the others.

A male, from Victoria (Blackburn's collection), evidently belongs to the species, but differs from the type in being larger, 4.75 mm., with less of the sixth and seventh segments of abdomen pale, and more of the others; the antennae are perfect, their median joints are slightly infuscated and apical ones flavous, the fourth to tenth are each about as long as wide or very slightly transverse, and the eleventh is longer.

Hyperomma microps, n. sp.

♀. Pale castaneous; antennae, palpi, and legs still paler. Sides with a few straggling hairs, abdomen rather sparsely clothed.

Head subovate, with a large neck; with fairly dense and large punctures; under-surface with a few scattered ones. Eyes minute and lateral. Mandibles long, with a strong compound tooth, about one-third from base but normally concealed. Antennae short, fourth to ninth joints slightly transverse, tenth about as long as wide, eleventh slightly longer. Maxillary palpi with subapical joint large and swollen, apical one small and briefly conical. Prothorax much longer than wide, apex scarcely wider than base and narrower than head, all angles rounded off; with an irregular row of rather large punctures on each side of middle, and two still more irregular rows on each side, minute punctures scattered about. Elytra very small, much shorter than prothorax, and at apex about as wide, but feebly decreasing in width to base; with rather sparse and rather large punctures, a few forming an irregular row on each side of suture. Abdomen gently increasing in width posteriorly, sixth segment largest of all and distinctly wider than head; with fairly numerous punctures. Legs rather short, front tarsi simple. Length, 4 mm.

Hab.—Tasmania: Waratah, in moss (A. M. Lea). Unique.

An anomalous species, for which probably a new genus should have been proposed. The minute eyes, strictly lateral and consequently visible both from above and below, are distinctive from all known species of *Hyperomma* and *Suniopsis,* and the antennae with most of the joints transverse are also aberrant; the front tarsi are simple as in *Suniopsis,* but the apical joint of the maxillary palpi is distinct; the mandibles are dentate, but they vary in *Hyperomma.* It should possibly have been referred to *Scimbalium,* but as I know no apterous species of that genus, and as in most generic details it agrees with *Hyperomma,* it has been referred to the latter. In size it is only larger than *H. inquilinum.*

Macrodicax, n. gen.

Head large, with a wide neck. Eyes small, latero-frontal. Labrum transverse, sides pointed. Mandibles long and powerful, strongly tridentate. Mentum with two globular processes in front; labial palpi small and thin. Maxillary palpi with subapical joint large, shorter than preceding joint, and about twice the length of the apical one, which is conical. Antennae thin but not very long. Prothorax large, somewhat dilated in front. Scutellum strongly transverse. Elytra small. Abdomen rather short and wide, five segments strongly margined, anal styles moderately long. Femora rather stout, edentate; hind tibiae rather long, the others shorter; front tarsi with four basal joints dilated to form a conspicuous pad, the fifth rather long and thin; basal joint of each of the other tarsi distinctly longer than the second, the others evenly decreasing in length to fourth, fifth as on front tarsi. Body apterous.

A remarkable genus with two ball-like objects in the mouth, as in *Hyperomma* (they are visible from directly in front and very distinct from

below), but from that genus it differs in the strongly dentate jaws, labrum incurved to middle instead of deeply notched, eyes smaller, lateral and with somewhat larger facets, and front tarsi strongly dilated. The jaws, eyes, labrum, mandibles, and tarsi are all different from those of *Suniopsis*. The head is somewhat like that of *Dicax* (all the known species of which are winged), but the middle and hind tarsi are very different, somewhat resembling those of *Scimbalium*, whose front tarsi, however, are usually thinner. In catalogues the genus should be placed near *Dicax* and *Hyperomma*.

Macrodicax potens, n. sp. Fig. 2.

♂. Black, in parts with a slight bronzy gloss; mouth parts, parts of mandibles, antennae, palpi, legs, most of sterna, and a narrow strip (between the gular sutures) on under-surface of head more or less reddish, parts of under-surface of abdomen obscurely diluted with red. Upper-surface with rather long, scattered, dark hairs, becoming dense on abdomen and legs, front of labrum with long reddish hairs.

Head subquadrate between front and neck, hind angles rounded off, front feebly incurved to middle; with fairly numerous, large, setiferous punctures, but absent from a space along middle; with numerous minute punctures scattered about. Antennae thin but not very long, none of the joints transverse, first stouter than the others, and almost as long as second to fourth combined, fourth somewhat longer than second and much shorter than third. Prothorax slightly longer than wide, apex slightly wider than base, and slightly curved near each side, sides gently incurved near base; with a semidouble row of distinct punctures on each side of middle, more irregular ones towards and on sides, and with numerous very minute ones scattered about. Elytra conjointly transverse, distinctly shorter than prothorax and less than its greatest width; with irregular rows of large rough punctures, some of which are irregularly longitudinally confluent. Upper-surface of abdomen with rather dense and not very deep but sharply-defined punctures; under-surface with somewhat similar ones, but becoming suddenly much smaller and denser in middle of second and third segments, sixth segment deeply notched in middle. Front tibiae notched on inner side towards base. Length (excluding mandibles), 14 mm.

Hab.—New South Wales: Dorrigo (H. W. Cox). Unique.

A powerful-looking insect, with a bigger head than any other apterous species of the family known to me from Australia. In some lights parts of the abdomen appear to be slightly iridescent. There appears to be at least one comb of small golden teeth at the notch on each front tibia, but I have been unable to see it clearly, partly owing to the density of the clothing; the notch itself is distinct from but few directions; the tip of each tibia has a fringe of golden setae on its upper edge, less distinct on the middle ones than on the others. The left mandible is slightly dilated from the tip to beyond the middle, when its inner edge slightly curves inwards before a strong acutely-triangular tooth, beyond this are two smaller but fairly large teeth; the right mandible is without the slight incurvature before the big tooth, and its two smaller teeth are smaller than those on the left, and should perhaps be regarded as cusps of a tooth. The antennae are now broken on the type, only four joints remaining on one of them, but one was perfect when the figure was drawn. The head and prothorax are very finely shagreened, the elytra rather more coarsely. The large punctures on the head are smaller than those on the elytra, but more sharply defined and evenly rounded, they are considerably larger than those on the prothorax, the minute ones on the latter, except in certain lights, are scarcely distinguishable from the shagreening.

DICAX, Fvl., Cat., p. 276.

ARCULUS, Fvl. V.
CEPHALOTES, Fvl. W.A.
ventralis, Lea.
DESERTI, Blackb. N.S.W., S.A., W.A., N.T., C.A.
LONGICEPS, Fvl. *(Lathrobium)*. N.S.W.
RUBRIPENNIS, Fvl. V.
RUFICOLLIS, Lea. Q., N.S.W. var. *nigriventris*, Lea.

DICAX CEPHALOTES, Fvl.

D. ventralis, Lea.

The tip of the subapical segment of the abdomen of the male of this species has two comb-like processes,[23] and largely because these were not mentioned by Fauvel in his description of the abdomen of the male *D. cephalotes*,, I presumed that *D. ventralis* was not that species. On examining some greasy specimens recently, however, the combs were scarcely visible, and so they might easily have been overlooked by Fauvel; it would appear, therefore, that the names are synonymous.[24]

DICAX LONGICEPS, Fvl.

A specimen from Ebor (New South Wales) in the Queensland Museum probably belongs to this species, but differs from the description in being smaller —7.5 as against 9.5 mm.

DICAX DESERTI, Blackb.

Blackburn's description of the colour of *D. deserti* is practically identical with that of Fauvel's *D. rubripennis*, except that the latter did not mention the tip of the abdomen as partly red; its legs vary from a dingy piceous-brown with the tarsi and front coxae paler, to deep black, with the tarsi and metasternum of a dingy brown, the elytra vary from rather dark red to bright castaneous. Two specimens, from Oodnadatta, are labelled as cotypes, although in the description only Storm Creek was mentioned.

Var. Four specimens, from Mulwala, appear to belong to the species, they differ from the typical form in being smaller, 6.5-7 mm., the legs deep black, except that the tarsi are obscurely brown, and the metasternum blackish. Their colours, in fact, are exactly as on some of the larger ones, but I have seen no specimens intermediate in length between 7.5 and 10.5 mm.

DICAX RUBRIPENNIS, Fvl.

A cotype of this species (from the British Museum) differs from small specimens of *D. deserti* in having the abdomen entirely black, the head, prothorax, and elytra with a faint pruinose gloss (not mentioned by Fauvel) and the punctures somewhat smaller and sparser.

SCIMBALIUM, Er., Cat., p. 270.
(Frequently written *Scymbalium.)*

AGRESTE, Blackb. V., S.A., C.A.
ARCUATUM, Fvl. N.S.W., V., Tas., S.A., N.W.A.
AUSTRALE, Fvl. Q., N.S.W., C.A.
DUPLOPUNCTATUM, Fvl. V., S.A., C.A.
LAETUM, Blackb. S.A.
MICROCEPHALUM, Fvl. *(Cryptobium)*, Cat., p. 284. Q., N.S.W., V., Tas., S.A.
OPACULUM, Fvl. Q., N.W.A.
PICEUM, Macl. *(Lathrobium)*, Cat., p. 265. Q., N.W.A. *ferrugineum*, Fvl.
RUFUM, Fvl. V., S.A.
SIMPLARIUM, Fvl. N.S.W., V., Tas., S.A., N.W.A.
SPARSICOLLE, Fvl. Q., N.S.W., V., S.A.

[23] Lea, Proc. Linn. Soc. N.S. Wales, 1904, pl. 4, fig. 12.
[24] Since this was written I have received a cotype of *cephalotes* from the British Museum, which puts it beyond question.

Scimbalium piceum, Macl.

S. ferrugineum, Fvl.

A specimen, from Northern Queensland, identified by Blackburn as *S. ferrugineum,* and agreeing with the description, was compared and agrees with the type of *Lathrobium piceum.* As its front tarsi are only moderately dilated and basal joint of hind tarsi distinctly longer than the second, it is quite evidently a *Scimbalium.*

Scimbalium rufum, Fvl.

Two specimens of an apterous species, from Melbourne, agree well with the description of this species; at first glance they are strikingly like *Lathrobium adelaidae,* but the antennae are longer, elytra distinctly shorter, front tarsi less dilated, and basal joint of hind tarsi as long as the two following combined.

Scimbalium pallidulum, n. sp.

Pale castaneous; antennae, palpi, and legs paler, head slightly infuscated. With fairly numerous dark hairs scattered about; abdomen with rather dense ashen pubescence, head and elytra more sparsely clothed, prothorax with hairs but hardly any pubescence.

Head between antennae and neck about as long as wide; with numerous, fairly large, sharply-defined punctures, becoming smaller and more crowded in hind angles (which are strongly rounded). Antennae thin, passing base of prothorax, first joint almost as long as second and third combined, third distinctly longer than second and fourth, the others to tenth gradually decreasing in length, but all distinctly longer than wide. Prothorax distinctly longer than wide, almost parallel-sided, except that the angles are rounded; with rather dense punctures, smaller than on head, but absent from a rather narrow median line. Elytra distinctly longer and wider than prothorax, sides slightly dilated posteriorly; with rather dense and asperate but sharply-defined punctures, nowhere seriate in arrangement. Legs rather long; front femora slightly dentate; front tibiae notched at about basal third; front tarsi with four basal joints almost as wide as apex of tibiae, the other tarsi longer and thinner. Length, 6-7 mm.

Hab.—Northern Territory: Daly River (H. Wesselman), Adelaide River (British Museum); North-western Australia: Derby (W. D. Dodd and Dr. A. M. Morgan). Type, I. 12645.

In appearance close to *S. semifumatum,* but head and abdomen paler, antennae and prothorax longer, and elytral punctures somewhat different. The colour and size would do fairly well for *S. opaculum,* but punctures of head and prothorax certainly differ from the description; in Fauvel's table[25] the prothorax and elytra are noted as having very dense obsolete punctures; on the present species the elytral punctures are dense and rather small, although quite distinct, on the prothorax they are sparser, somewhat larger, and quite sharply defined, but absent from a median line. The prothorax is of a brighter colour than the rest of the upper-surface. The mandibles are stout and strongly dentate, the front tooth larger than the others. The tip of the abdomen is triangularly notched in the male, and the front femora are rather more strongly dentate than in the female.

Scimbalium micropterum, n. sp.

♀. Black; prothorax and legs dark red, palpi and tarsi paler, parts of antennae reddish, but mostly deeply infuscated. With fairly numerous dark hairs, elytra and abdomen with dark pubescence, rather dense on the latter.

[25] Fauvel, Ann. Mus. Civ. Gen., 1878, p. 526.

Head subovate, hind angles strongly rounded; with irregularly distributed and fairly large sharply-defined punctures, absent from a small median space. Mandibles rather long and strongly dentate. Antennae thin, passing base of prothorax, first joint as long as second and third combined, fourth slightly longer than second, and distinctly shorter than third and fifth, the others to tenth gradually decreasing in length, but all distinctly longer than wide. Prothorax distinctly longer than wide, all angles rounded, apex slightly wider than base, sides with a very feeble incurvature near base; punctures sharply defined but smaller than on head, not very dense, and absent along middle. Elytra about one-fourth wider than prothorax, and slightly longer; each with five somewhat irregular rows of moderate punctures on disc, becoming irregular posteriorly, a few on sides. Abdomen with punctures (both surfaces) smaller, denser, and more asperate than on apical parts of elytra. Front femora rather stout and moderately dentate; front tibiae notched near basal third; front tarsi with four basal joints slightly wider than apex of tibiae, the other tarsi longer and thinner, with the basal joint as long as the three following combined. Length (excluding mandibles), 9 mm.

Hab.—Western Australia: Mount Barker (A. M. Lea). Unique.

In general appearance somewhat like *S. laetum* and *S. arcuatum*, but with darker elytra and paler prothorax, the punctures are also much sparser on the prothorax and elytra. The elytra are smaller than is usual on winged species of the genus, but I have made sure that wings are present. I have not dissected out the mentum of the type, but it has two globular appendages at the apex, apparently as in species of *Hyperomma*. On the type the abdomen is unduly extended, with the membranous parts of five segments showing conspicuously pale. The head and prothorax are highly polished, the elytra rather less so. The punctures on each side of the median line of the prothorax are irregularly lineate in arrangement.

DOLICAON, Cast., Cat., p. 274.

MASTERSI, Macl. *(Pinobius)*. Q. PARICOLOR, Fvl. Q., N.T.
NIGRIPENNIS, Macl. Q., N.S.W., N.W.A. QUADRATICOLLIS, Macl. Q.

Dolicaon alatus, n. sp. Figs. 24-26.

♂. Bright castaneous-red; two apical segments of abdomen, femora, and tibiae black, four to six basal joints of antennae infuscated or black, the others pale. Upper-surface moderately clothed with ashen pubescence, the head and prothorax more sparsely than elsewhere.

Head, excluding mandibles and neck, distinctly transverse; with fairly large and numerous but not crowded punctures, and with minute ones scattered about. Antennae extending to base of prothorax, first joint curved, as long as second and third combined, third almost twice as long as second and fourth, seventh to tenth subglobular, becoming feebly transverse. Mandibles stout and strongly dentate. Prothorax at apex almost as wide as the median length, but base narrower, all angles moderately rounded off; punctures much as on head, but absent from a rather narrow median line. Elytra slightly wider than widest part of prothorax and not much longer, angles rounded off, sides almost parallel; with rather dense and sharply-defined punctures, slightly larger and denser than on prothorax and head. Abdomen with numerous asperate punctures; under-surface of sixth segment with a deep narrow notch. Legs not very long, front femora stout and obtusely dentate, front tibiae notched at about basal third, four basal joints of front tarsi dilated to form an ovate pad, basal joint of hind tarsi almost as long as three following combined. Length, 8.5-10.5 mm.

♀. Differs in having slightly shorter antennae and legs and abdomen not notched.

Hab.—Queensland: Mackay (R. E. Turner), Bowen (Aug. Simson's No. 955), Townsville (Ejnar Fischer), Claudie River (J. A. Kershaw); Northern Territory: Darwin, Adelaide River (British Museum). Type, I. 12400.

Structurally very close to *D. mastersi,* except that the head is somewhat larger and with longer antennae, but very differently coloured. Of the eight specimens under examination all have the apical segments of abdomen black, six have the femora and tibiae either entirely black or with only the knees and tips of tibiae obscurely paler (on one the front tibiae are entirely pale), but two have the legs entirely reddish; the clenched mandibles appear to be completely black, but on being forced open they are seen to be partly red. Each mandible has a bicuspidate tooth about one-third from apex, the cusps varying in size, and sometimes slightly in position, there is also a small tooth lower down. On one specimen one wing is exposed and seen to be ample, as it extends almost to the tip of the abdomen.

Dolicaon pedatus, n. sp.

♂. Dark castaneous; two apical segments of abdomen and parts of mandibles black; apical half of antennae paler than basal half.

Elytra no longer than prothorax, and scarcely as wide as its widest part. Length, 10 mm.

Hab.—Northern Territory: King River (W. McLennan). Type (unique), in National Museum.

In general appearance close to the preceding and with sculpture as described for that species, but slightly thinner and darker, clothing slightly denser, head slightly less transverse, eighth to tenth joints of antennae quite globular and not transverse, punctures everywhere smaller and denser, especially on the elytra, and the elytra themselves smaller. Each mandible has a bicuspidate tooth on the apical third and a feeble projection (scarcely a tooth) nearer the base. Remnants of wings are present, but are useless for flight, as they are not half the length of the elytra.

CRYPTOBIUM, Mannerh., Cat., p. 278.

ABDOMINALE, Mots. Q., N.S.W., W.A., N.W.A., N.T.
apicale, Macl.
ADELAIDAE, Blackb. S.A., W.A.
DELICATULUM, Blackb. S.A.
ELEGANS, Blackb. V., S.A.
FRACTUM, Fvl. Q., N.S.W., V., Tas., S.A., W.A.
MASTERSI, Macl. Q., N.S.W., V., W.A., N.W.A., N.T., C.A.
var. *walkeri,* Bernh., Arkiv for Zool., x. (No. 5), p. 5.
MYRMECOCEPHALUM, Lea. Q., N.S.W., N.T.
PICEUM, Fvl. Q.
SANGUINICOLLE, Bernh., Arkiv for Zool., xiii. (No. 8), p. 14. Q.
VARICORNE, Blackb. S.A.

CRYPTOBIUM MASTERSI, Macl.

C. walkeri, Bernh., var.

The description of *walkeri* is but little more than a comparison with *mastersi,* and the differences pointed out are to be noticed on the specimens I have already[26] noted as a variety of that species.

N. var. Two specimens from North-western Australia represent another variety; they differ from the typical form in having the fifth abdominal segment entirely pale, the front part of the head shining, and with much sparser punctures than usual.

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[26] Lea, Proc. Linn. Soc. N.S. Wales, 1904, p. 73.

CRYPTOBIUM SANGUINICOLLE, Bernh.

In general appearance this species is close to *C. mastersi,* except that the elytra are uniformly dark; the specimens before me are from Townsville, Mackay, and the Coen River.

CRYPTOBIUM FRACTUM, Fvl.

A specimen, from Bowen, probably belongs to this species, but differs from typical ones in having the prothorax and base of head of a dingy red, possibly from immaturity.

Cryptobium hoplogastrum, n. sp. Figs. 27 and 32.

♂. Black; mandibles red, most of femora flavous, rest of legs deeply infuscated, maxillary palpi with apical joint flavous, basal ones reddish, the others infuscated. Head, sides of prothorax and of elytra, and sides and apex of abdomen with dark straggling hairs, elytra with very short pubescence, somewhat longer on abdomen.

Head subquadrate, hind angles rounded off; a deep median line in front, becoming finer and disappearing about one-third from neck; with large and numerous but irregularly distributed punctures. Mandibles long, with an acutely tricuspidate tooth near middle. Antennae with basal joint as long as four following combined. Prothorax slightly longer than wide, slightly narrower than head, almost parallel-sided, angles slightly rounded off; with an irregular row of rather large punctures on each side of middle, the sides with more numerous ones. Elytra slightly wider than head, about once and one-third the length of prothorax; with dense and sharply-defined punctures of moderate size. Abdomen with rather small, sparse, and rugose punctures, but becoming larger on under-surface, third segment on under-surface with a large acute process, passing fourth and overhanging base of fifth segment, sixth triangularly notched at apex. Length, 7-8 mm.

♀. Differs in having the head smaller and less quadrate, without the median line, prothorax as wide as head and abdomen simple.

Hab.—Western Australia: Swan River and Bunbury (A. M. Lea).

Differs from *C. fractum* and *C. varicorne* in being more robust, with notably coarser punctures and somewhat shorter prothorax, but from those and all other species known to me it is abundantly distinct by the remarkable armature of the male abdomen. On the type the tips of the antennae and of the abdomen are obscurely diluted with red. Another male, which agrees perfectly in structure with the type, may be immature, parts of its abdomen (including the remarkable process), the shoulders, and tips of elytra are obscurely reddish, and the prothorax still more obscurely so.

Cryptobium bicuspidatum, n. sp. Fig. 28.

♂. Shining black; mandibles and elytra red, legs flavous, tibiae and coxae more or less deeply infuscated, two or three basal joints of antennae reddish, two or three apical ones obscurely flavous, the intervening ones deeply infuscated. Head, sides of prothorax and of elytra, sides and apex of abdomen, with straggling dark hairs, elytra and abdomen rather sparsely pilose.

Head moderately long, narrower in front of than behind eyes; with large and numerous punctures, sparser between antennae than elsewhere. Mandibles long and acute, about middle with an acutely bicuspidate tooth. Antennae with first joint about as long as four following combined, second and third subequal, fourth to tenth subglobular, becoming feebly transverse, eleventh slightly

longer. Prothorax distinctly longer than wide, subcylindrical, angles slightly rounded off; with an iregular (semidouble) row of fairly large punctures on each side of middle, the sides with more numerous ones. Elytra distinctly wider than prothorax and slightly longer; with fairly regular rows of rather large punctures, but becoming confused posteriorly. Abdomen with fairly numerous small punctures, sixth segment largest of all, its under-surface depressed in middle of apex, with a slight tubercle behind the depression, the following segment deeply notched. Length, 6-6.5 mm.

♀. Differs in having the head slightly smaller, antennae and legs somewhat shorter, and under-surface of abdomen simple.

Hab.—New South Wales: Sydney (H. J. Carter). Type, I. 12646.

In general appearance like *Lathrobium elongatulum,* but basal joint of antennae longer and less cylindrical; in appearance also close to *L. basipenne* and *Scimbalium simplarium,* but punctures and antennae different; at first glance it looks like small *Dicax deserti,* with pale legs, but with the antennae of *Cryptobium;* structurally it is close to *C. varicorne* and *C. cribripenne,* but the elytra are differently coloured and with different punctures. The tips of the abdominal segments are obscurely reddish; the male has a slight tubercular swelling on the under-surface of the sixth segment, but it does not extend to the tip of its own segment, instead of passing beyond the following one, as on the male of *C. hoplogastrum.*

Cryptobium spissipenne, n. sp.

♂. Black; mouth parts, antennae (some of the median joints infuscated), palpi and legs more or less flavous. Head, sides of prothorax and of elytra, and sides and tip of abdomen with straggling dark hairs; elytra and abdomen with short and not very dense pubescence.

Head rather large, hind angles strongly rounded off; very finely shagreened, with numerous fairly large punctures, becoming crowded about base and sparser in front. Mandibles long and acute, near middle with a strong and acutely bicuspidate tooth. Antennae with basal joint slightly longer than four following ones combined. Prothorax slightly longer than wide, subcylindrical, angles slightly rounded off; with dense and sharply-defined punctures of medium size, but absent from a polished median line. Elytra distinctly wider and slightly longer than prothorax; with sharply-defined punctures about as large as those on prothorax, but much more crowded. Abdomen with dense and rather small asperate punctures, becoming sparser posteriorly; under-surface of subapical segment deeply notched. Length, 6-8 mm.

♀. Differs in having the head smaller, antennae and legs slightly shorter, and abdomen not notched.

Hab.—Queensland: Stewart River (W. D. Dodd), Mackay (National Museum from R. E. Turner). Type, I. 12619.

In size and appearance like *C. varicorne* and *C. fractum,* but elytral punctures denser, without the least trace of seriate arrangement, head larger and less polished, and its punctures denser; in appearance it is also close to *C. hoplogastrum,* but the head is shagreened, legs paler, and abdomen of male very different. Parts of the under-surface are usually obscurely reddish, the knees are sometimes slightly darker than the adjacent parts, but no parts of the legs are conspicuously infuscated. On three (of the nine) specimens before me the prothorax is obscurely paler than the adjacent parts, but it is not distinctly reddish, the infuscation of the antennae varies in extent and intensity.

Cryptobium kershawi, n. sp.

♀. Reddish-brown, elytra and two apical segments of abdomen blackish, most of femora flavous, trochanters and tarsi redder, rest of legs deeply infuscated. Prothorax and elytra glabrous, except for short and sparse clothing at sides, rest of upper-surface finely pubescent.

Head rather elongate, sides behind eyes rather strongly rounded and deeply constricted at neck, two subfoveate impressions between antennary ridges; with crowded and not very large but sharply-defined punctures. Mandibles long and acute, a large compound tooth about the middle. Antennae moderately stout, first joint almost as long as five following combined, ninth and tenth scarcely longer than wide. Prothorax much longer than wide, widest at about apical third, sides thence strongly rounded to apex, and gently narrowed (with a slight incurvature) to base, hind angles almost rectangular; with coarse irregularly crowded punctures, leaving a distinct median line, but this with minute punctures. Elytra much wider than prothorax and slightly longer, with strong crowded punctures, a few of which are transversely confluent. Abdomen with crowded subrugose punctures, smaller than on any other portion of upper-surface, and slightly smaller than on its under-surface; anal styles long. Length, 9.25 mm.

Hab.—Queensland: Claudie River (J. A. Kershaw). Type (unique), in National Museum.

In size and general appearance this beautiful species is fairly close to *C. sanguinicolle,* but head paler and antennae stouter, elytra with coarser punctures, the prothorax with coarser and denser ones, leaving much less of the middle impunctate; the punctures on each side of the median line are so large and close together that it appears to be a slightly elevated ridge. The head is subopaque, the rest of the upper-surface highly polished. The left mandible has three acute projections forming a tricuspidate tooth, the right one has but two projections, of these, however, the posterior one is stouter and less acutely pointed than the other.

Cryptobium nitidicolle, n. sp.

♀. Black, under-surface blackish-brown, mandibles and legs brownish-red, antennae somewhat darker, palpi paler. Head, sides of prothorax and of elytra, sides and tip of abdomen with straggling dark hairs; head, elytra, and abdomen rather densely pubescent.

Head rather long; with dense and small but sharply-defined punctures, rather larger in front of eyes than elsewhere, but becoming smaller on clypeus. Mandibles long, strong, and acute, each about middle with an acutely tricuspidate tooth. Antennae with joints proportioned as in preceding species. Prothorax subcylindrical, distinctly longer than wide, front angles rather strongly rounded off, the hind ones less strongly; with dense and rather large punctures, leaving a polished median line. Elytra slightly longer than prothorax and much wider; with crowded but sharply-defined punctures. Abdomen with punctures somewhat as on base of head; anal styles long. Length, 11.5 mm.

Hab.—Northern Territory: Oenpelli (P. Cahill). Type (unique), in National Museum.

Allied to the preceding species, but more densely clothed, larger and more robust, head, abdomen, and legs darker, and head, prothorax, and elytra with smaller punctures; structurally it is fairly close to *C. mastersi* and *C. sanguinicolle,* but the prothorax is entirely dark and legs nowhere flavous. The prothorax is glabrous, except at the sides, and in consequence appears more highly polished than the rest of the upper-surface.